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Ancient Plaster Casts of Greek Metalware

GISELA M. A. RICHTER

PLATES 88-95

The recent publication (1954) of the plaster casts that were found at Begram, the ancient Kâpicî, in Afghanistan, in 1937 and 1939-1940, has again focused attention on this remarkable discovery. A similar ensemble came to light, it will be remembered, in Egypt in 1907, was quickly acquired by the Pelizaeus Museum of Hildesheim, and published in exemplary fashion by Otto Rubensohn in 1911.¹ Single examples, mostly found in Egypt, have from time to time been acquired by a number of museums. All these pieces have long ago been recognized as casts taken from metalware. I should like in this article to examine the material as a whole and make suggestions regarding its date and purpose—both questions to which varying answers have been given.

By way of introduction I want briefly to recall the most significant statements by Latin writers regarding metalware, for, though well known, they must be fresh in our minds for the proper understanding of the plaster casts in question.

First there are the accounts of Pliny (33.148), Livy (27.16.7), and Cicero (*In Verrem*, 2.4 *passim*), who describe the enormous quantities of embossed silver, gold, and bronze that were brought to Italy by the victorious Roman generals after their conquests of Greece, Asia Minor, and Southern Italy. This plundering went on for some time; but in the time of Cicero it was already considered a misdemeanor, as shown by Verres' conviction.

As had happened with the sculptures brought from Greek lands to Rome, the imported Greek metalware started an era of collecting.² We are told that enormous prices were paid for rare pieces. According to Pliny (33.156f), 10,000 denarii were given for a bowl by Pytheas with an embossed relief showing Diomedes and Odysseus in the act of stealing the palladium; an even larger sum for two

cups by Zopyros; and people "only valued wrought silver for its age and reckoned its merit established when the chasing was so worn that the very design could no longer be made out." A man named Charinus is addressed by Martial in one of his epigrams (4.39) as a collector of every kind of silver (*argenti genus omne*) and the only one who possessed embossed works by Myron, Pheidias, and Mentor. Seneca (*Ad Helv. de cons.*, 11.3) refers to the value attached by Roman collectors of silverware to "pieces signed by famous artists of the old days," *antiquis nominibus artificum argentum nobile*.

Naturally in the face of so widespread a demand the supply of original Greek metalware soon gave out. So, again as in the case of sculpture, an age of copying set in. For this copying there is the evidence of the actual examples that have survived, the well known treasures from Boscoreale, Pompeii, Hildesheim, and Bernay,³ and the many single pieces found elsewhere, which, though made in Roman times, reproduce Greek motifs—motifs of all periods, ranging from the fifth to the second century B.C. There is furthermore the literary testimony of Pliny (33.157), who speaks of cups "that were so delicate that no impressions could be taken of them," *e quibus ne exemplaria quidem liceret exprimere, tam opportuna iniuriae subtilitas erat*; and who refers (34.47) to one Zenodorus, "who was counted inferior to none of the artists of old in his knowledge of modelling and chasing," *scientia fingendi caelandique nulli veterum post poneretur*; and who produced facsimiles of two chased cups by Kalamis which were so exact "that there was scarcely any difference in artistry between them and the originals," *ut vix ulla differentia esset artis*.

The process of copying ancient metalware was of course easy, and had been practised as early as

¹ In a volume entitled *Hellenistisches Silbergerät in antiken Gipsabgüssen*. Further pieces from the same site, most of them fragmentary, were acquired by the Pelizaeus Museum in 1913 and published by Ippel, *Guss und Treibarbeit in Silber* (97. Berl. Winckelmannspr. 1937). Cf. also Rostovtzeff, *Social and Economic History of the Hellenistic World*, 374ff.

² Cf. especially the references collected by Vessberg, *Studien zur Kunstgeschichte der römischen Republik*, 26ff, 59ff and

Rizzo, *L'Urbe* 10 (1947) 3ff.

³ Cf. De Villefosse, "Le Trésor de Boscoreale," *Mon Piot*, 5 (1899); Pernice and Winter, *Der Hildesheimer Silberfund* (1901); E. Babelon, *Trésor d'argenterie de Berthouville* (1916); Maiuri, *La casa del Menandro e il suo tesoro di argenteria* (1932); also Mortimer Wheeler, *Rome beyond the Imperial Frontiers* (1954) 68ff, and *passim*.

Hellenistic times. All that was needed was the taking of an impression in plaster or terracotta from the original and then casting it in metal or clay. Such direct reproductions have survived both in terracotta and metal. There are, for instance, the Hellenistic terracotta cups with reproductions of Syracusan coins, and the Calene and other black-glaze vases with reliefs molded from earlier works.⁴ And there is the cast (not hammered) silver bowl from Èze, France, now in the British Museum,⁵ with a scene representing the apotheosis of Herakles, which recurs in the Calene terracotta bowls of the third century B.C. Both scenes obviously go back to fifth century compositions, such as have miraculously survived in silver bowls now in London and New York,⁶ which—and this is significant—are not cast, but hammered over a die. The precision of the work in the hammered Greek originals is in striking contrast with the lack of sharpness in the later, cast reproductions.

Other instructive instances are the two silver cups from Hoby, Denmark, now in the National Museum of Copenhagen.⁷ They are of the Roman period, as their inscriptions testify, but reproduce fifth century Greek designs, as Friis Johansen and Rodenwaldt both recognized; on one is represented the wounded Philoktetes, on the other Priam and Achilles. The latter group, as Zahn saw, recurs on a fragment of a terracotta Arretine cup in Berlin,⁸ which was molded from the relief on a metal vase, either the very one above mentioned or an exact copy of it, and the Philoktetes recurs on another Arretine fragment found in France.⁹

With this evidence of Roman practice in mind, let us turn to the plaster reliefs.

First let us reexamine the reliefs said to be from Mit-Rahînet (Memphis), Egypt. They consist of over 70 pieces, which turned up on the antiquities market in Cairo in 1907. They are a homogeneous lot, all worked in the same kind of plaster, mostly

small reliefs, but also a few molds and heads in the round. The originals from which the reliefs were molded were evidently ornaments on various objects—covers of mirrors, central medallions on bowls (the emblemata of which Cicero speaks), handles of jugs, attachments on helmets and horse-trappings, reliefs on coins and bracelets, decorated exteriors of hemispherical bowls,¹⁰ and so forth. That they were cast from finished pieces is indicated by the fact that the rivets with which the metal reliefs were fastened sometimes reappear on the plaster casts¹¹ (cf. pl. 88, fig. 4), and—another significant fact—worn areas are reproduced,¹² evidently from objects that had been in use for a long time.

The majority of the originals must have belonged to the late fourth and the third century B.C., including the one with the familiar features of Ptolemaios Soter¹³ (pl. 89, fig. 6). Rubensohn accordingly assigned the plaster casts to the period of Ptolemy Euergetes (246-221 B.C.), and the originals from which they were taken to about 350-220 B.C. In this dating, however, he omitted to account for two facts—the presence of earlier pieces—archaic (e.g. two plaques, one with a lion, the other with lion and bull, cf. pl. 88, fig. 1), fifth century (e.g. an ornament with palmette and lotus, cf. pl. 88, fig. 3), and fourth (e.g. a Rhodian coin, cf. pl. 88, fig. 2)¹⁴—which, though few in number, still exist, and for the occurrence of several examples that he himself recognized as Roman, among them a cast taken from a round mirror with a decorative frame and insert of glass (or metal),¹⁵ a well known Roman type.¹⁶ To explain this to him surprising fact he suggested that these Roman pieces were perhaps after all not found with the others, though he admitted that they formed part of the same lot and were made of the same kind of plaster.¹⁷

Rubensohn's dating of the plaster casts in the later fourth and the third century B.C. was, however, seemingly reinforced by another observation.

⁴ Cf., e.g., Pagenstecher, *Calenische Reliefkeramik*, 165ff, and *passim*.

⁵ Walters, *Cat. of Silver Plate*, no. 8 (on pl. 11 the nos. 8 and 9 have been accidentally interchanged); Richter, *AJA* 54 (1950) 362ff, fig. 6.

⁶ Walters, *op.cit.* no. 9; Richter, *AJA* 45 (1941) 363ff; 54 (1950) 357ff; *Ancient Italy*, p. 58.

⁷ Friis Johansen, *Nordiske Fortidsminder* II, fasc. 3 (1923) 119ff, and *Acta* 1 (1930) 273ff; Rodenwaldt, *AA* (1937) cols. 237ff.

⁸ No. 30924; Richter, *Ancient Italy*, fig. 193.

⁹ Cf. Labrousse, *Gallia* 12 (1954) 301ff; Ch. Picard, *Collection Latomus* 28 (1957) 574f.

¹⁰ On these cf. especially Byvanck, *BullAntBesch* 30 (1955)

44f.

¹¹ Cf. Rubensohn, *op.cit.* 4ff, and e.g. no. 37, pl. vi.

¹² *Ibid.* p. 5.

¹³ *Ibid.* no. 32, "wohl das beste Porträt des ersten Ptolemäers das uns erhalten ist."

¹⁴ Cf. *ibid.* nos. 52, 53, 28, 15. The title of Rubensohn's book is therefore somewhat misleading. Instead of Hellenistic silverware, the casts reproduce Greek metalware of all periods, chiefly Hellenistic.

¹⁵ *Ibid.*, no. 54, pl. XIII.

¹⁶ Cf. e.g. Richter, *Catalogue of Bronzes, Metropolitan Museum*, 287ff, and the references there cited.

¹⁷ Rubensohn, *op.cit.* p. 3 and *passim*.

On one of the pieces appears a female bust¹⁸ (pl. 89, fig. 7) which must reproduce an emblem of a bowl, and on which are visible, above the head and the right shoulder, two inscriptions written in ink, in the style current on papyri: Ἐπιμάχου μνημόσυνον, and μνημόσυνον, "work of" or "in memory of Epimachos" (pl. 89, figs. 8, 9). Rubensohn dated the inscription in the third century B.C., the time to which he wished to assign all his plaster casts. He based this dating on the "geringe Hinneigung zur Kursive," the use of apices in the π, and the forms of υ and η. According to present-day epigraphists, this assignment is, however, not valid. Professor Margherita Guarducci thinks a date in the Roman period is not only possible but more likely than one in the third century B.C., as shown by the forms of the mu, pi, and alpha.¹⁹ Professor E. G. Turner also has written me: "there is no compulsion for the third century B.C.; any date between the second century B.C. and the second century A.D. is conceivable, but I myself would incline to prefer the first century B.C. . . . or later."

It seems to me, therefore, that another theory would account for all the miscellaneous evidence presented by the plaster reliefs, namely that they were cast in the Roman period from examples of Greek metalware that were still extant at the time.

This surmise is now in fact substantiated by the Begram finds. They consist of plaster reliefs similar to those from Memphis, and like them taken from metalware. But in this case we have the great advantage of their having been unearthed in scientific excavations. They were found by the French in two adjoining, sealed, basement rooms, and can be definitely dated in the Roman period from the objects found with them—Roman glass (including millefiori and painted), Roman bronzes, as well as Indian ivories and Chinese lacquer.

¹⁸ *Ibid.* no. 3, pl. III.

¹⁹ "Niente si oppone a datare l'iscrizione in età romana, anzi le forme del mu, pi, ed alpha sembrano confermare questa ipotesi."

²⁰ Cf. 93ff. In the earlier volume, *Recherches archéologiques à Begram*, issued in 1939, a number of pieces of Roman glass were published, but no plaster reliefs. I cite the later volume henceforth as *Begram*. Most of the plaster casts from Begram are in the Kabul Museum, Afghanistan, only a few in the Guimet Museum, Paris.

²¹ Mortimer Wheeler, *op.cit.* 163. Stern, in *Nouvelles rech. arch. à Begram*, reviews the slender evidence for the dating of the Indian ivories and Chinese lacquer, and comes to the conclusion that their period may be fixed between the last quarter of the first century A.D. and the middle of the third century.

²² In *ArchCl* 7 (1955) 134ff.

Monsieur Hackin, who conducted the excavations, and Mr. Kurz, who published much of the Roman contingent after Hackin's death, in a volume entitled *Nouvelles recherches archéologiques à Begram*, issued in 1954, assigned the whole lot to the first century A.D.²⁰ Others have preferred the second century A.D. or the first half of the third.²¹ Professor Adriani, in a recent article,²² suggested the first century B.C. on account of what he thinks was its Alexandrian origin.

The exact date in the Roman period is of course difficult to determine from the pieces themselves, since they are mechanical reproductions of earlier Greek creations in a number of styles, mostly Hellenistic, like the Memphis casts. As Kurz so well brought out, many of the motifs recur on other objects of Roman date—gems, metal vases, paintings, pottery, lamps, sarcophagi, funerary altars, candelabra, and so forth. But I do not believe they are, as has been thought,²³ Roman creations. Rather they reproduce the originals that became the repertoire of the artist of the Roman age.²⁴

Let me try to substantiate this claim.

Two of the most important and instructive of the casts from Begram are those that represent Diomedes and Odysseus²⁵ (pl. 90, figs. 10, 11). The former is unfortunately much worn, the latter is in fair preservation. The two figures appear in similar poses on the famous gem signed by Felix²⁶ (pl. 90, fig. 12), and on other monuments reproduced by Kurz in his publication.²⁷ In comparing the Felix gem with the plaster casts from Begram one becomes immediately conscious of the superiority of the latter. How much more convincing is the action in the Begram Odysseus, how much finer the modelling of his body, how much simpler and more consecutive the folds of his mantle. There can be no doubt that we deal here with a cast from a

²³ Cf. *Begram*, 145: "De tous ces éléments nous pouvons conclure que les originaux de ce remarquable trésor de moulages de plâtre découverts à Begram datent du 1er siècle ap. J.-C., peut-être un peu plus tôt, mais certainement pas plus tard."

²⁴ Cf. Adriani, *op.cit.* 133.

²⁵ Kurz, *Begram*, nos. 149 bis, 105, figs. 308, 444, 445. About 11 cm. in diameter. In no. 105 there is a small medallion with a female head in the field that has nothing to do with the representation (likewise in nos. 138, 139, 149 bis, figs. 428, 311, 308). Perhaps it served as a factory mark, as in later metalware.

²⁶ Furtwängler, *A.G.*, pl. I, 11; Kurz, *Begram*, fig. 446. Formerly in the Arundel, Marlborough, and Evans collections, now in that of Captain Spencer Churchill.

²⁷ Kurz, *Begram*, 131ff.

Greek original from which the Roman versions were ultimately derived.²⁸

Other comparisons point the same way. How sensitively modelled, for instance, is the group of the sleeping man and winged figure in the plaster relief²⁹ (pl. 90, fig. 13), and how much the later marble version³⁰ (pl. 90, fig. 14) has lost of this freshness. With what consummate skill are rendered the delicately curving vine leaves on the Begram relief³¹ (pl. 91, fig. 15), and how superior they are in this respect to even the finest of the later renderings of this familiar motif. How superb are some of the portrait heads³² (cf. e.g. pl. 91, fig. 16), equal in perception and sensitiveness to the best that has survived of Hellenistic art. And what life and power are displayed in the three-quarter head of a maenad,³³ perhaps molded from the bronze ornament of a couch. We have here, there can be no doubt, casts of Greek originals, in an inferior and friable material, it is true, but nevertheless of the highest quality.

The same excellent workmanship is displayed by the other pieces of this kind that have sporadically turned up in the antiquities market. Kurz (*op.cit.* p. 137, note 4) gave a list of those known to him—three in Munich, three in New York, one in the Vatican Library, one in Alexandria,³⁴ several in the University of London, and a few in the Louvre. I can add a few more, and doubtless there are other unpublished examples in different collections. My

illustrations show three in the Louvre (two briefly described but not before illustrated, one unpublished), two in London (not before published), two in New York (not before illustrated), two in Munich, and the tondo in the Vatican.³⁵

One of the examples in the Louvre has a relief of Ajax seizing Cassandra at the palladion³⁶ (pl. 91, fig. 17). It is, it would seem, an excerpt from a larger composition on a cup, with a handsome border of leaf-and-dart running along the top. A marble relief with the same subject and in a similar, but not identical, composition is in the Villa Borghese³⁷ (pl. 91, fig. 18). The contrast between the two is again striking. In the plaster cast the terrified expression of Cassandra, her disordered hair, the oblique folds of chiton and mantle, vividly convey the horror of that last night in Troy, and make the Borghese relief, fine though it is, appear mannered and unconvincing by comparison.

A recently acquired plaster relief in the Louvre represents Herakles struggling with the Nemean lion³⁸ (pl. 92, fig. 19). He has grasped the animal's head with his left hand, while in his raised right (now missing) he perhaps held the club, as in the similar group on a mirror in the British Museum³⁹ (pl. 92, fig. 20). The latter is composed, as in the Louvre cast, from right to left, not, as is more commonly the case in the classical period, from left to right⁴⁰ (cf., e.g., the coins of Herakleia of c. 400-

²⁸ Whether the Begram casts were actually taken from the phiale by Pytheas mentioned by Pliny (cf. beginning of article), or at least from some direct reproduction of it, one cannot of course tell. The question is complicated by the fact that there seem to have been several versions of the story represented in Greek art.

²⁹ Kurz, *Begram*, no. 103, pp. 266f, 119f, figs. 291, 415. About 16 cm. in diam.

³⁰ Published in a drawing by Schreiber, *Hellenistische Reliefs*, pl. LXI. The relief was formerly in the Gréau and Fröhner collections, but its present whereabouts are not known; cf. Kurz, *Begram*, pp. 119f; his fig. 416 reproduces the relief from a cast in the Ashmolean Museum, as does my fig. 14, the photograph for which was kindly sent me by Mr. Ashmole.

³¹ Kurz, *Begram*, no. 129, figs. 281, 412, pp. 120f, where parallels are cited, two of which are illustrated in his figs. 413, 414. Diam. about 12 cm.

³² Kurz, *Begram*, no. 132. 19 cm. diam.

³³ *ibid.* no. 126, figs. 280, 395, pp. 269, 114. Height 17.5 cm.

³⁴ Cf. Adriani, *BSRAA* no. 32, pp. 77ff, pl. VI.

³⁵ I am much beholden to Messrs. J. Charbonneaux, P. Devambaz, E. Coche de la Ferté, A. Maiuri, B. Ashmole, Martin Robertson, H. Diepolder, J. Perlzweig, and to the authorities of the Hildesheim Museum, the Musée Guimet, the Metropolitan Museum, and the Vatican, especially Miss H. Speier, for help in my studies and in obtaining adequate photographs with permission to publish them. I also want to thank Mr. Adriani for

many stimulating discussions, and for showing me photographs of a number of examples in the Museum of Alexandria which he will shortly publish.

³⁶ MND 195. Height c. 9 cm., width c. 6 cm., thickness 1 cm. Not broken at top; more or less complete at right; broken at left, but there can hardly be much missing. Two vertical holes at back, one several cm. long. Back uneven. Bought in Egypt. Briefly mentioned, but not illustrated, in *AA* (1901) col. 154, no. 127.

³⁷ Helbig, *Führer*,³ no. 1537; Rumpf, *RM* 38/39 (1923-24) 446ff, pls. x-xii; Willeumier, *Tarente*, 290f. The provenance is not known. The material is marble. Hardly a Greek original as Rumpf thought, but rather a good Roman copy, in which case Rumpf's theory that it is Tarentine would fall.

³⁸ MND 2049. Height c. 13 cm.; width c. 9.5 cm. There are holes at the top for suspension. Back smooth. Said to come from Egypt. In the illustration the animal's open mouth with its dark shadows at first sight looks like its eyes, which, however, are rightly placed further to the right.

³⁹ 1904, 7-8, 1. From Anaktoron, *AA* (1905) col. 167; Züchner, *Die griechischen Klappspiegel*, p. 60, no. KS 83, fig. 28, where it is said to be second half of the fourth century B.C. The British Museum authorities, however, date the mirror in the early fourth century, which seems to me a more likely date, to judge by the renderings of the hair and face of Herakles.

⁴⁰ Cf. Furtwängler in Roscher's *Lexikon*, s.v. Herakles, col. 2223.

336 B.C.).⁴¹ A novel element in the Louvre relief is the chlamys that hangs down Herakles' back and falls in schematic folds reminiscent of those in the Maenad reliefs ascribed to Kallimachos,⁴² in the Dexileos stele,⁴³ and in the Siris and Praeneste bronzes (though there more agitated).⁴⁴ A date in the late fifth or early fourth century is also suggested by the rendering of Herakles, impassive and grandly conceived in the early manner. One may compare the horseman with right arm raised in the Albani relief,⁴⁵ and—as Mr. Trendall has pointed out to me—the group of Herakles and the lion on a bell krater in Naples by the Painter of the Berlin Dancer, which “could not be later than about 420 B.C.”⁴⁶ The lion is not unlike that on the coins of Velia of the early fourth century,⁴⁷ though in our group the expression is of course one of pain.

The third Louvre relief is a medallion⁴⁸ (pl. 93, fig. 23) with Aphrodite seated on a cushioned throne with back and solid sides which end in animal's legs—a well known Hellenistic type.⁴⁹ Before the goddess stands a nude, chubby, winged Eros, his left arm extended to Aphrodite. Behind him, on the floor, is a vase—an amphora or oinochoe. The details are blurred, for the surface has suffered. Miss Speier tells me that (in her studies for her article on Eros for the *Enciclopedia d'Arte Antica*) she has found no parallel for this scene; but she thinks it is more likely that Aphrodite is attending to some wound of Eros' than that she is punishing him. At all events, we have here another representation to add to the many known from Hellenistic times showing Eros engaged in various activities and escapades.

One of the reliefs in London⁵⁰ (pl. 92, fig. 21, ht. 10.3 cm.), evidently from the central medallion (emblema) of a bowl, represents the bust of a Maenad, turned in three-quarter view to the right, and wearing chiton, nebris, and ivy-wreath. Busts

of Dionysos and of his Satyrs and Maenads often appear as emblemata in metal bowls. Fine examples in silver have been found in Boscoreale and Tarentum⁵¹ and the subject appears in other plaster reliefs, for instance a fine example in Munich⁵² (pl. 92, fig. 22).

The other London piece⁵³ (pl. 93, fig. 24, ht. 8 cm.) is a curving plaque molded evidently from a situla or large cup, and represents Dionysos drunk, reeling backward and supported by a satyr. The familiar theme is here seen in a specially lively composition of Hellenistic date.

Plate 93, fig. 25, shows one of the pieces in New York,⁵⁴ a fragment evidently from the relief on a mirror cover, as indicated by the frame with its convex and concave moldings. All that remains is the upper part of what must have been a seated woman, with right arm brought back (as in Züchner, *Griechische Klappspiegel*, figs. 9 and 70), the left perhaps holding a fold of the mantle that is pulled up over the back of her head. Confronting her was presumably another figure (cf. Züchner, figs. 118, 119). The delicate profile of the face, reminiscent of Praxitelean creations, and the sensitive rendering of the transparent drapery suggest a date in the first half of the fourth century B.C.

On the other New York fragment⁵⁵ (pl. 93, fig. 26) is seen the lower part of a male figure seated on a throne and resting one foot on a footstool; the throne has a back and two of its voluted legs are indicated, one in lower relief than the other to suggest the further distance. Perhaps the attitude of the man was like that of Korinthos on the famous mirror in the Louvre.⁵⁶ Not enough remains, however, to reconstruct the composition or to know from what kind of object it was molded. The execution is again of great delicacy, in fourth century style.

The piece in the Museum für Antike Kleinkunst

sumably Egypt.”

⁴¹ Br.Mus.Guide to the Principal Coins of Greece, pl. 25, no. 12.

⁴² Cf. Caputo, *Lo scultore del grande bassorilievo con la danza delle menade in Tolemaide di Cirenaica*, passim.

⁴³ Lullies and Hirmer, *Greek Sculpture*, fig. 191.

⁴⁴ Lamb, *Greek and Roman Bronzes*, pl. LXVII.

⁴⁵ Lullies and Hirmer, *op.cit.* fig. 177.

⁴⁶ Trendall, *Frühitaliotische Vasen*, p. 21, pl. 17 b.

⁴⁷ G. Hill, *Select Coins*, pl. LIV 1; Richter, *Animals in Greek Sculpture*, fig. 24.

⁴⁸ MND 273. Diam. 6 cm. Hole at top for suspension. *AA* (1901) col. 154 (not illustrated). From Zagazig, Egypt.

⁴⁹ Richter, *AA* 58 (1954) 274f.

⁵⁰ About 11 cm. high. The provenance is uncertain, “pre-

⁵¹ *MonPiot* 5 (1899) pl. xix; Wuilleumier, *Tarente*, pl. xxiii, 1, 3, and *Trésor de Tarente*, pl. x, 1.

⁵² Inv. no. 13006. Height 12 cm. From the Dattari Collection; *Auktionskatalog* 1912, no. 394. *AA* (1916) col. 69, 25, c.

⁵³ Height c. 9 cm., width c. 10 cm. Not broken on either side. There is a hole in the middle of the top for suspension. Professor Adriani will publish this piece with special reference to its landscape elements.

⁵⁴ 31.11.16. Height 7 cm. Bought with 31.11.17 in Paris from an Egyptian dealer. Alexander, *BMAA* 27 (1932) 197.

⁵⁵ 31.11.17. Height 7 cm. Alexander, *loc.cit.*

⁵⁶ Züchner, *op.cit.* 185, fig. 99.

in Munich⁸⁷ (pl. 94, fig. 29) was published in a drawing by Pagenstecher in 1919,⁸⁸ at which time it was in the collection of Professor Furtwängler, who had purchased it in a bazaar in Cairo. The same drawing is reproduced by Kurz,⁸⁹ with a remark that its present whereabouts are unknown. Mr. Diepolder informed me of its actual location. The scene represents a woman sacrificing at a rural shrine. Kurz, *loc.cit.*, rightly relates it to similar examples in Begram (nos. 113, 143, 147, 148), all apparently molded from cups with scenes representing sacrifices and preparations for sacrifices at rural shrines. Shape, dimensions, style are the same in all. That the provenance of the Munich cast is Egypt, that of the others Begram, is in itself interesting. And Kurz calls attention to another significant fact—namely that the scene on the plaster relief in Munich recurs on the well known gladiator's helmet in the National Museum in Naples⁹⁰ (cf. pl. 94, figs. 30, 31)—with other scenes including that with the sacrifice of a pig that occurs on so many Roman monuments⁹¹ and also on another Begram cast.⁹² There can be no doubt that the scenes on the helmet were directly reproduced with the help of such plaster casts as those from Begram and Munich.

Lastly we come to the plaster tondo in the Vatican Library⁹³ (pl. 94, fig. 34; pl. 95, figs. 35-37), perhaps the most important piece of all. If my interpretation of these plaster reliefs is correct, viz. that they were cast from surviving Greek metalware in Roman times, we have here the reproduction of a bowl—a flat dish, perhaps, with central medallion and upturned rim, not unlike that from Memphis, Rubensohn, *op.cit.* pl. 1:1;⁹⁴ furthermore, the Amazonomachia that decorates almost the entire field is not, as has been suggested, adapted from different sources in Roman times, but reproduces the original composition. In other words, the scene is not a Roman pasticcio, but a direct cast of a Greek original. That the date of the plaster cast is Roman

is suggested both by the fact that the other plaster casts here considered are Roman, and by the finding place, for, according to the Vatican authorities, it was found in the Via Appia in 1846. The period of the original, however, as indicated by every one of the five groups, is the last quarter or so of the fifth century B.C. This becomes clear when one examines the figures in a good light on the object itself, as I was privileged to do.

Let us take the groups one by one.

(1) Herakles has seized an Amazon by the hair and pulled her off her horse (cf. pl. 95, fig. 35). Bielefeld, in his *Amazonomachia*, p. 76, no. 28, calls it a "hellenistische Umbildung" and compares it with a group on the frieze of the temple of Artemis Leukophryene from Magnesia in the Louvre. The style of the figures, however, as well as of the horse, is pure fifth century. One may compare, for instance, for the frontal pose and patterned modelling of the Herakles, the Herakles on the Phigaleia frieze (Kenner, *Der Fries des Tempels von Bassae-Phigalia*, pl. 10) and the Hermes on the Echelos relief in Athens, no. 1783 (pl. 95, fig. 38).

(2) Two Amazons, one trying to lift her fallen companion (pl. 95, fig. 35). Cf. Bielefeld, p. 68, no. 4. The group recalls one on the Phigaleia frieze (Kenner, pl. 22), not only in the composition but in the stocky proportions of the figures and in the rendering of the drapery.

(3) A group of three figures: a mounted Amazon, a fallen Greek, and another Greek who has grasped the reins of the Amazon's horse (pl. 95, fig. 36). This is perhaps the most beautiful of the five groups and strongly recalls the Parthenon frieze, especially in the simplified modelling of the horse (cf. e.g. Lullies, *Greek Sculpture*, pl. 152). One may also compare the horses on the late-fifth-century coins of Syracuse and on the Echelos relief (pl. 95, fig. 38); the face of the fallen Greek with that of the man on the grave relief from the Piraeus (Lullies, pl. 184); the modelling of his body with that of the

⁸⁷ Inv. no. 13.007. Height 8.5 cm.; width 7.5 cm. The back is "roh verstrichen." There are no holes.

⁸⁸ In *SBHeidAk phil.-hist.Kl.* (1919) 45, fig. 3, and *Nekropolis* (1919) 28, fig. 14C.

⁸⁹ *Begram*, 118, fig. 406. The object in the woman's hand was interpreted by Pagenstecher as an Eros. Kurz suggests a bird, and this was also Sieveking's opinion, as entered in the inventory, so Mr. Diepolder tells me (he thinks perhaps a cock).

⁹⁰ No. 5672. Ruesch, *Guida del Museo di Napoli*, 415; Rostovtzeff, *Mystic Italy*, pl. xx; Kurz, *Begram*, fig. 409. To Kurz's list of similar representations of such sacrificial scenes (see his pp. 118f) may be added the scene on a mirror from Trepizond in Munich (Züchner, *op.cit.* 151, fig. 73), to which

my attention was called by Mr. Diepolder.

⁹¹ Cf. Kurz, *Begram*, 115ff, figs. 398-403; Ch.Picard, *BCH* 79 (1955) 509ff.

⁹² Kurz, *Begram*, no. 227, figs. 290, 397, pp. 115ff.

⁹³ Bielefeld, *Amazonomachia*, 36, 68, 82, 84, pl. 1; Schauenburg, *Helios*, 23f; D. von Bothmer, *Amazons in Greek Art*, 215. That the material of this piece is plaster was verified for me by the experts of the Vatican.

⁹⁴ Whether the central medallion of Helios formed part of the original piece is not certain. In the Calene bowls, reproduced from fifth century phialai, the central boss was made separately and varies in examples molded from the same original (cf. Richter, *AJA* 45 [1941] 387f).

fallen youth on the Albani relief (Lullies, pl. 178) and on the Dexileos relief (Lullies, pl. 191). Cf. Bielefeld 82, n.12.

(4) A Greek about to deal the death blow to a fallen Amazon (pl. 95, fig. 37); Bielefeld, p. 36, b. The lower part is missing. A somewhat similar group on the Phigaleia frieze comes to mind (Kenner, pl. 19).

(5) An Amazon is being dragged off her collapsing horse by a Greek (pl. 95, fig. 38). Again a similar group appears on the Phigaleia frieze (Kenner, pl. 15). Cf. Bielefeld, p. 84, no. 12.

In short, our comparisons are all with fifth and early fourth century works—the Parthenon frieze, the Phigaleia frieze, the Echelos relief, and grave reliefs of the last quarter of the fifth and the first decade of the fourth century B.C.

The Vatican cast, therefore, in its modest way, adds another to the few extant examples of Greek fifth century metalware (cf. *supra*). Whether the five motifs of the amazonomachia represented on it go back to Pheidias' decorations on the stretchers and footstool of the throne of Zeus at Olympia, as has been suggested, there is of course no telling; but even if influenced by these approximately contemporary works, they would be fresh creations. Though Greek art was, as we know, essentially traditional, and the same types and compositions recur again and again from the fifth century onward, there are practically never exact repetitions—until of course in Roman times. Each artist, whether he be a sculptor, or painter, a potter, or metalworker, adopted an accepted type, and within this framework created something new. The rich material recently presented by Bielefeld in his *Amazonomachia* (arranged according to types) and by D. von Bothmer in his *Amazons in Greek Art* (arranged according to periods, up to 300 B.C.) makes this crystal clear. Even if a Mikon or a Pheidias might enlarge the repertoire with a new composition, this would quickly become common property, but only to serve as an inspiration, not for repetition. The creative instinct of each and every

Greek artist was too strong for direct imitation.

One may, therefore, confidently claim the Vatican Amazonomachia as an original fifth century composition, of which each group can be paralleled by others in its own period and later, but which is nevertheless an individual creation. That is also why the five groups form such a harmoniously interrelated design, so different from the later pasticcis, in which figures were culled from different epochs and which, therefore, so often present a staccato effect.

Besides these plaster positives some actual molds have been found. Rubensohn published a few plaster molds from Memphis, part of the same lot as the reliefs but different in character.⁶⁵ The most important examples, however, have come from the Chersonnese on the shores of the Black Sea.⁶⁶ They are not of plaster but of terracotta, and were found, about seventy years ago, in a private dwelling which had evidently served as a workroom, for in an adjoining chamber was found a well preserved oven. Thirty-eight of the molds were in good condition, many others were fragmentary. That they were impressed from the decorations on metalware there is no doubt, and they were in fact immediately so identified. The illustrations in the Russian periodicals, in Minns's *Scythians and Greeks*, and in my pl. 93, figs. 27, 28, reproduce modern plaster casts taken from the ancient molds and they strikingly resemble the ancient plasters we have been considering. The relief illustrated in my fig. 27 evidently was taken from a Greek fourth century mirror, or from the lid of a box. The subject has been interpreted both as Aphrodite and Anchises, and as Omphale teaching Herakles to spin. The specimen shown in my fig. 28 reproduces the head of a satyr of Hellenistic type. Both reliefs are beautifully modelled, and so are the other examples found with them. The subjects are those favoured also in the Memphis and Begram reliefs, viz. taken from the Dionysiac and Aphrodisian cycles.

Nothing was found with the molds to determine the period of their manufacture. The date assigned

⁶⁵ *op.cit.* nos. 65ff. Cf. also Wolters, in *Corolla Curtius*, 101.

⁶⁶ *Compte-rendu de la commission impériale archéologique* (St. Petersburg 1882-88) pp. ccxvif; *Materialii to arkheologii rossii* 7 (1892) 3ff; Minns, *Scythians and Greeks*, 364. Rubensohn, *op.cit.*, did not mention these molds, but Kurz, *op.cit.*, gives a reference (p. 137, note 4). The terracotta molds found in the Athenian agora, Tarentum, and elsewhere are of course in a different class. Many have been found in contexts of the fifth and fourth centuries B.C., and so can be definitely dated not later than in that period; cf. D. B. Thompson, *Hesperia*

Supplement 8 (1949) 365ff; Hood, *JHS* 75 (1955) Supplement p. 4. Though molded from metalware their purpose evidently was not to produce other metalware, but perhaps, as has been suggested, to serve as records. Also in a different class are the plaster and terracotta coffin ornaments from South Russia and other sites; cf. Minns, *Scythians and Greeks*, 370ff; Watzinger, *Griechische Holzsarkophage*, 60ff, 89f; and some unpublished pieces in the British Museum. The occasional traces of color indicate their use as ornaments.

to them in the Russian publications—the third to second century B.C.—was based merely on the style of the representations (though Minns recognized that the group reproduced in my pl. 93, fig. 23, was earlier). In the same general locality as the house with the molds and oven were found fifth and fourth century vases, as well as coins of the Roman imperial period. The Roman period is, therefore, possible for the molds, and, in view of the date of the Memphis and Begram casts, seems probable.⁶⁷ At all events, we learn from these molds the process used for the production of the plaster reliefs. First a clay (or plaster) impression was taken from the decoration on the metal object, then the clay mold was fired in an oven, and lastly the plaster was poured into the mold. And they teach us another important fact: South Russia must have been a center for the making of these reproductions, for the molds evidently were made there—witness the oven found in the adjacent room.

Furthermore, a mold, this time of plaster, evidently belonging to the same category of objects as those we are discussing, has been found in the Roman city of Sabratha in the Tripolitana, North Africa.⁶⁸ On it are represented Aphrodite with three little Erotes, in the same delicate style and workmanship as Begram 103.

It is clear, therefore, that Egypt was not the only center of manufacture. As a matter of fact, there probably were many; for the surviving Greek metalware from which the casts were made was surely not assembled in any one place—be it Alexandria, Rome, Asia Minor, Tripolis, or South Russia—but was distributed over the whole Mediterranean.⁶⁹ That so many of the plaster reliefs have been found in Egypt may be simply due to the fact that in its dry climate plaster had a better chance to survive than elsewhere.⁷⁰

As was pointed out by Rubensohn and Kurz, a number of the plaster casts have holes for suspen-

sion (cf. also my notes 36, 38, 48, 53). They were, therefore, hung up on the wall, and this, considering the friable nature of plaster, was of course the best way to keep the pieces in good condition. Whether they served, as has been suggested, to show to visiting clients, or merely for use by the artists, or for both purposes, their principal object clearly was to serve as models for the manufacture of other metalware. And this could only have been in the Roman period, for copying, as far as we now know, though practised in Hellenistic times (cf. *supra*), did not become widespread until the days of imperial Rome—as we have learned from the statements of Latin writers, and from the actual surviving examples cited above.

We have, then, in these plaster reliefs from Memphis, Begram, and other sites precious testimony of how artists of Roman times worked. They had as patrons eager collectors who wanted above all "Greek antiquities," and they had available a wealth of examples that could be utilized to supply this demand. So in metalware, just as in the case of sculpture, plaster casts were used for reproducing the ancient works, either directly or in new compositions. That casts were used for the copying of Greek sculptures is definitely shown by (1) the surviving points (puntelli) on unfinished statues; (2) Lucian's statement (in *Zeus Tragodos*, 33) that casts were taken of the statue of Hermes in the Athenian agora every day; (3) the important recent discovery at Baiae of plaster molds of Greek sculptures in what was evidently a sculptor's workroom.⁷¹ And now we have the same evidence for metalware.

And we can go further. The fact that some of the representations on the plaster casts recur in strikingly similar designs on marble reliefs of the Roman period (cf. pls. 90, 91, figs. 14, 18), others on Roman gems (cf. pl. 90, fig. 12), and still others on Roman sarcophagi,⁷² helmets (cf. pl. 94, figs. 30,

score also, to envisage many centers of production.

⁶⁷ Sir Mortimer points out that in Egypt could be found a plentiful supply of gypsum (cf. *Antiquity* No. 89, Vol. 23 [1949] 15). There were, however, also supplies in Cyprus, Phoenicia, Syria, Northern Greece and South Italy; cf. Blümner, *RE* 7:2 (1912) s.v. gypsum, where an excellent resumé is given of what was known about plaster in antiquity, without mention, however, of the reliefs here considered (evidently because the account was written before the publication of the Memphis casts).

⁷¹ Napoli, *BdA* 39 (1954) 10; and my *Ancient Italy*, 111.

⁷² Cf. Kurz, *op.cit.* fig. 449; Robert, *Die ant. Sarkophagreliefs* II, fig. 139 a; and the references cited by Kurz, *op.cit.* 130ff.

⁶⁸ For a vivid account of the importance of South Russia in the Roman imperial period cf. Rostovtzeff, *Greeks and Iranians*, 150ff: "Under Roman protection Hellenism, which had been almost stifled by Iranism, began to revive and prosper" (p. 180).

⁶⁹ Mortimer Wheeler, *Antiquity* No. 89, Vol. 23 (1949) 14, note 32, pl. 19c.

⁷⁰ Adriani, *ArchCl* 7, pp. 124ff, has brought out the many connections between the representations on the Begram casts and Alexandria, citing, for instance, the pharos of Alexandria on a glass beaker. There are, however, other representations on these plaster casts, such as Odysseus and Diomedes, Ajax and Cassandra, Herakles performing his deeds, that can hardly be localized; and still others, such as the archaic lions, that antedate the foundation of Alexandria. It seems best therefore, on this

31), pots,⁷³ lamps⁷⁴ (cf. pl. 93, fig. 33), coins,⁷⁵ and paintings,⁷⁶ suggests that the little plaster casts here considered were used as models not only in the production of Roman metalware, but of other objects. The small size of the plaster casts made them handy to carry around and to export wherever needed. Moreover, the fact that they were in relief was an asset in the creation of three-dimensional works. It would have been natural, therefore, to use them in many different ways. We have often wondered what kind of "sketches" were employed by the artists of the Roman age in their tasteful adapta-

tions. The plaster casts we have been considering may well have served such a purpose.

That Begram in far-off Afghanistan, Egypt, and the Chersonnese on the Black Sea have supplied much of this precious material shows the beneficent effect of the Pax Romana. Commerce and transport had been stimulated and had not only knit together all parts of the vast Roman Empire, but had established relations with the countries beyond, as so graphically described by Sir Mortimer Wheeler in his *Rome beyond the Imperial Frontiers*.

ROME

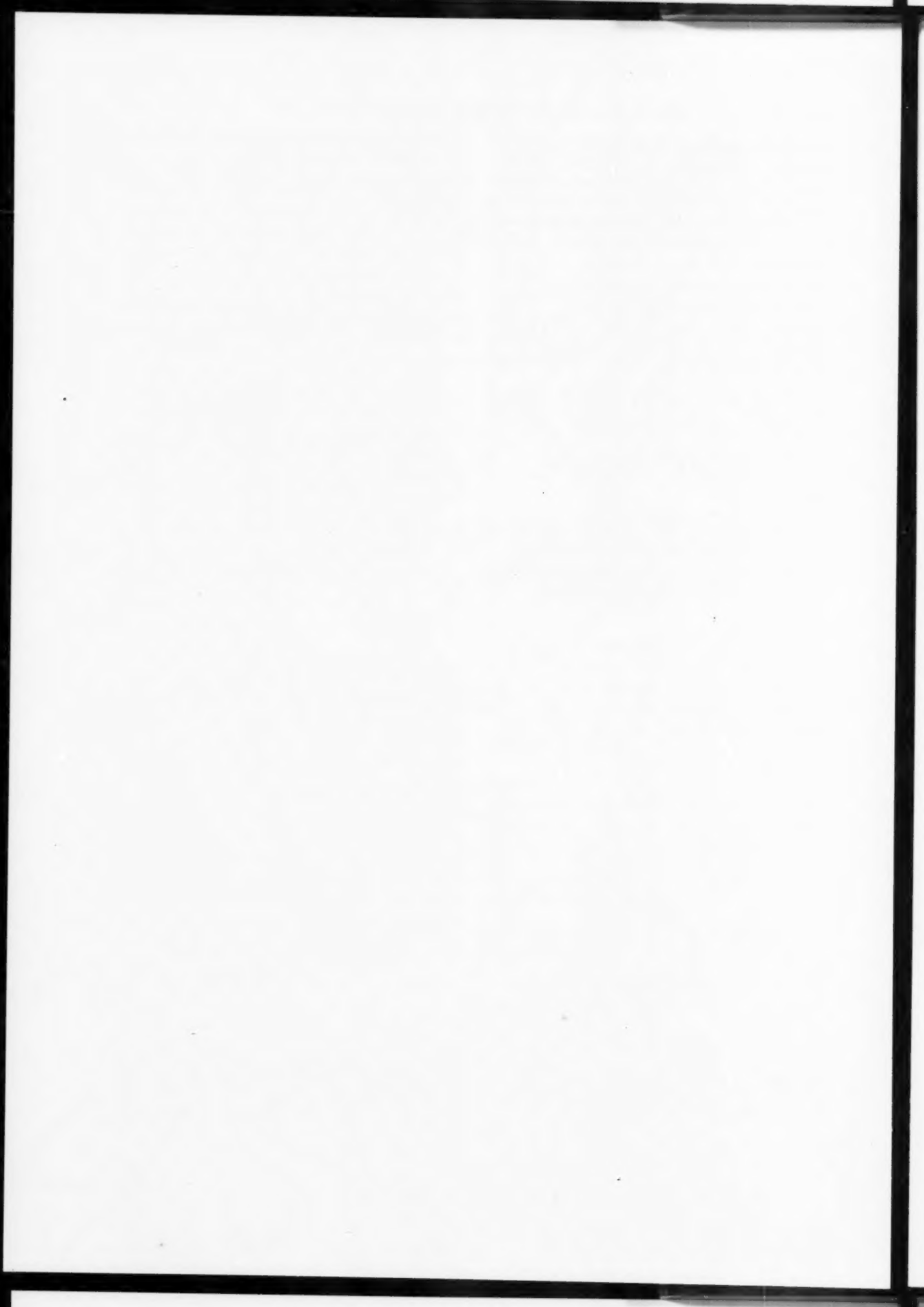
The photographs for figs. 1, 3-7 are from the Hildesheim Museum; for figs. 2, 8, 9 by Photo-Wehmeyer, Hildesheim; for figs. 11-13, 15, 16, 32 from the Musée Guimet; for fig. 12 from an enlarged photograph by J. Felbermeyer of a cast sent me by Captain Spencer Churchill; for fig. 18 by the Gabinetto Fotografico Nazionale; for fig. 14 from a photograph of a cast in the Ashmolean Museum; for figs. 17, 23 by Maurice Chuzeville, Paris; for fig. 19 by the Archives photographiques; for figs. 21, 24 from London University; for figs. 25, 26 from the Metropolitan Museum; for figs. 22, 29 from the Antikensammlungen, Munich; for fig. 20 from the British Museum; for figs. 30, 31 from the Gabinetto Fotografico, Naples; for fig. 33 from the Agora, Athens; for figs. 35-37 from the Vatican Library; for fig. 34 by Alinari; for fig. 38 from the National Museum, Athens.

⁷³ One may compare the Begram cast, Kurz, *Begram*, no. 96, figs. 296, 417, with *ibid.* fig. 418, a terra sigillata bowl in the Bibliothèque Nationale with a practically identical design.

⁷⁴ Cf. Kurz, *op.cit.* no. 99, fig. 292; Agora, no. L518. Cf. also *Begram*, no. 139, figs. 428, 430. The Agora lamps will be published by Miss Judith Perlzweig in a forthcoming volume in the Athenian Agora series. I reproduce fig. 33 with her generous permission.

⁷⁵ Kurz, *Begram*, no. 97, figs. 437, 442.

⁷⁶ Adriani, *op.cit.* 132ff., has brought out the interesting fact that on a number of the Begram casts are landscape elements with rural shrines like those in Roman wall paintings, and that such representations must, therefore, go back to Hellenistic times. This is another important piece of evidence in the much debated question of the origin of landscape painting.



Excavations at San Lorenzo f.l.m. in Rome, 1957

RICHARD KRAUTHEIMER, WOLFGANG FRANKL
AND GUGLIELMO GATTI

PLATES 96-97

For many years archaeologists agreed that the extant structure of San Lorenzo consisted of two distinct parts: the nave and aisles to the west, including the narthex facing the Via Tiburtina, and the present chancel, separated from the nave by the triumphal arch and better identified as the church to the east. South of the joining of these two parts and some meters distant rises the Campanile. Further east, near the end of the east church, the monastery of the Capuchin Fathers, a 12th century structure, projects in an L-shape to the south and west. The nave of the west church is bounded on either side by a colonnade of huge columns of varying size and an architrave supporting the clerestory wall. This nave and its accompanying aisles have always been linked, and rightly so, with the building activity of Honorius III (1216-1227) prior to his election to the Holy See. The narthex of the west church was completed during the pontificate of Honorius III. During this same building campaign the floor of the east church was raised to its present level, 1.20 m. above the Honorian nave, and a crypt was laid out underneath to house, on the original level of the east church, the tomb of Saint Lawrence. This old level of the east church was not re-excavated until 1865.

The east church, its nave surrounded by aisles and galleries to the south, east and north, was originally an independent structure, preceding the Honorian nave by centuries. Its date, indeed, is well established by the image of Pelagius II (579-590) in the mosaic on the east face of the triumphal arch, by the accompanying dedicatory inscription which is known through medieval copies, and by a letter of Gregory the Great, Pelagius' successor.¹

To the north and east of both the Pelagian and the Honorian buildings, the tufa hill rises to this day to a level corresponding to that of the galleries

of the east church. To the west, since Roman times, ran the Via Tiburtina. To the south extends a plain, the Campo Verano, now occupied, as is the hill, by the municipal cemetery of Rome. (pl. 96, fig. 1)

This apparently simple historical situation is complicated by a certain amount of evidence which at times seems contradictory. Originally, it would seem, the hill extended over the entire area now occupied by both the 6th and 13th century buildings. It contained, in its interior and on successive levels, the galleries of a catacomb in which Saint Lawrence was buried in 258. The *Liber Pontificalis* states that a basilica was founded by Constantine *supra arenarium cryptae*, above the sandpit of the catacomb, and that *gradus ascensionis et descensionis* led to the tomb of the martyr, *usque ad corpus*.² Funerary inscriptions dating from the early 5th century on, found on the Verano cemetery not far from the south flank of the present structures, attest to the existence of a *basilica maior* of Saint Lawrence and distinguish it from the stairs and from the tomb of the Saint.³ At the time of Pelagius II, the hill over the tomb seems to have collapsed. This led to the building of the east basilica, which was pushed laterally into the south flank of the hill on the level of the catacomb galleries. Its ground floor was thus accessible from the south, its galleries from the remnants of the hill to the east and west. In consequence, both the *Liber Pontificalis* and the pilgrim guides from the 7th through the 9th centuries refer consistently to two basilicas on the site, the *basilica ad corpus*, "smaller and more resplendent," built by Pelagius over the tomb of the Saint, and the *basilica maior*. This latter was dedicated to the Virgin in the late 8th century and continued under her name until the later 9th century when it disappeared from the documents.⁴

¹ G. B. de Rossi, *Inscriptiones Christianae Urbis Romae* (1857-61) II, 63ff, 106, 157; Migne PL 77, col. 107 (*Epist.* 4.30).

² *Le Liber Pontificalis*, Ed. L. Duchesne (Paris 1886-92) I, 181ff.

³ O. Marucchi, "Di una iscrizione recentemente scoperta . . ." *NuovBull* 6 (1900) 127ff; G. B. de Rossi, "Scoperte nell'Agro

Verano," *BACrist* 3rd ser. 1 (1876) 16ff; G. da Bra, *Le Iscrizioni Latine* . . . (Rome 1931) #50, 59.

⁴ G. B. de Rossi, *La Roma Sotteranea Cristiana* (Rome 1864-77) I, 139-44; *Liber Pontificalis* I, 500ff; II, 2, 10, 20ff, 112f, 119f, 121, 125, 128, 130.

While it was reasonable to assume the *basilica maior* to be identical with Constantine's building, both its plan and its location remained conjectural. According to one theory it occupied the site of the present Honorian structure, its apse facing east and touching the apse of Pelagius' church. Another possibility was that the Pelagian structure incorporated parts of Constantine's building. It was also suggested that the Constantinian church had occupied the top of the hill and had disappeared in its collapse.⁵

While bomb damage, suffered in 1943, was being repaired in 1947 and 1948, Mr. R. Krautheimer, Professor E. Josi and Mr. W. Frankl were able to undertake two excavation campaigns on the site of the Honorian church. The excavation extended west from the triumphal arch to a distance one-third the total length of this part of the church and covered both its nave and aisles.⁶ The remnants of a catacomb system were brought to light, including a large 4th century tomb chamber. This latter, apparently the object of particular veneration, was later enlarged into a sizeable underground area and was accessible through the 12th century. The excavation also uncovered the apse of the Pelagian church which faced west and communicated with the underground area, first through windows and a *fenestella*, later through doors. But the findings threw little light on the question of the Constantinian building, presumably the *basilica maior*. Although the excavations proved conclusively that no such building had existed on the site of the Honorian nave, since the living rock rose to the level of the 13th century pavement, they left open the possibility that the Constantinian building had originally occupied the hill once above the location of the Pelagian church, or another site in the vicinity.

In 1950, during the rebuilding of the north boundary wall to the left of the main entrance of the cemetery of the Campo Verano, the beginning of an apse of considerable dimensions was found, opening eastward and connected, after an offset of 0.60 m., to a very long wall 0.83 m. thick (pl. 96, fig. 2). It was possible to trace this

wall in an easterly direction for a distance of over 78 meters up to the northwest corner of the monastery of the Capuchin Fathers, running parallel to the present Honorian and Pelagian basilicas of San Lorenzo. The portion of the apse which was found contained two openings, the first well-preserved, 2.60 m. wide with a threshold at a level 2.64 m. below an assumed zero-point on the pavement of the Honorian basilica. The longitudinal wall and the wall of the apse were formed, in their lower parts, of *tufelli* and rose with two setbacks (the wall at this point being topped with bricks). The upper parts consisted of *opus listatum*, generally of two courses of *tufelli* alternating with one of bricks. Springings of weaker walls along the north flank of the longitudinal wall suggested the existence of small chapels. The remains were described by the discoverers, Professor Enrico Josi and the architect Wolfgang Frankl.⁷ Mr. Frankl also executed a careful plan of the remains. The beginning of the apse was saved and made accessible through the efforts of the *Direzione delle Belle Arti*, now *Reparto X, Antichità e Belle Arti*, of the Commune of Rome. The size of the remains quite rightly caused the discoverers to suppose that this was an important Early Christian construction, either an *area*, an outdoor sepulchral court, or a basilica which might be connected with the *basilica maior* of San Lorenzo mentioned in inscriptions and documents from the 5th to the 9th century.

With the hope of arriving at a more exact knowledge of the building, a number of test digs were undertaken in June, 1957, directed by us and financed in part by the *Reparto X* of the Commune and in part by the Phyllis Lambert Architectural Research and Publication Fund, Institute of Fine Arts, New York University. We were assisted in our work by Mr. Alfred Frazer and Mr. Walter Widrig, both of the Institute of Fine Arts. We wish to thank these organizations as well as the *Pontificia Commissione di Archeologia Sacra* which, through the intercession of the Rev. Father Antonio Ferrua, S.J., lent us some of its workmen. Due to the nature of the site it was necessary to limit the test digs to a number of points chosen along the

⁵ G. B. de Rossi, "Le due basiliche di S. Lorenzo nell'Agro Verano," *BACrist* 2 (1864) 41ff; Duchesne, *Liber Pontificalis* I, 197f, note 84; 236, note 12; 130f, notes 5, 6. S. Pesarini, "Contributi alla storia della basilica di S. Lorenzo," *Studi Romani* 1 (1913) 37ff; R. Krautheimer, "Contributi per la storia di . . . San Lorenzo," *RACrist* 11 (1934) 285ff; A. Muñoz, *Le due basiliche di San Lorenzo nell'Agro Verano* (Rome 1944).

⁶ R. Krautheimer, E. Josi, W. Frankl, "Le esplorazioni nella basilica di San Lorenzo . . .," *RACrist* 26 (1950) 1ff; idem, "S. Lorenzo f.l.m. in Rome, Excavations and Observations," *ProcPhilSoc* 96 (1952) 1ff.

⁷ E. Josi and W. Frankl, "Descrizione sommaria di ulteriori trovamenti presso San Lorenzo sulla Via Tiburtina," *RACrist* 26 (1950) 48ff.

paths of the cemetery, that is, in front of the monument of Goffredo Mameli (pl. 96, fig. 3, no. 1), along the west wall of the 19th century *quadriporticus* (*ibid.* nos. 2, 3, 4), to the west (no. 5) and to the south (no. 6) of the southwest angle of the convent and inside the monastery itself (no. 7). We wish to extend our thanks to the *Direzione* of the cemetery as well as to the Capuchin Fathers for their cooperation and patience. In spite of the inevitable restrictions and the consequent difficulties of the excavation, the results have been satisfactory in every way.

A recalculation of the curvature of the preserved beginning of the apse resulted in an internal diameter of 32.85 m. instead of 29 m. Based on this, we found in two points, that is, in front of the Mameli monument (pl. 96, fig. 3, no. 1) and near the west wall of the *quadriporticus* (*ibid.* no. 2), the south exterior wall of the building at distances of 34.25 m. and of 34.10 m. respectively from the north wall, known since 1950. Both were formed of the same *opus listatum* and had almost the same thickness, that is, between 0.80 and 0.90 m. North of the south wall, in front of the Mameli monument, and thus in the interior of the building, a tomb *a cappuccina* was found. On the exterior, a wall projected south, apparently a chapel contemporary to the main construction. Its foundation wall reached 2.32 m. beneath the zero point. In the interior, tombs *a cappuccina* were found on two levels. Walls of other tombs *a cappuccina* were found parallel to the main south wall near the west wall of the *quadriporticus* (fig. 3, no. 3).

Next to the west wall of the convent at a distance of 7.65 m. from the north wall of the building (fig. 3, no. 5) the foundation wall of a colonnade came to light projecting westward from under the monastery for a distance of over 4.0 m. This foundation wall is of the same character as the two exterior walls, north and south, but is thicker (1.00 m. as against 0.80-0.90 m.). Next to it, both to the north and to the south, were found tombs *a cappuccina*; one of these was covered, at a level of -2.71 m. by a slab of marble, *in situ* though shattered, with an epitaph, unfortunately illegible. On the wall rests a travertine block, about 1.50 m. long, 1.02 m. wide and 0.41 m. high. At the level of 2.37 m. it supports a plinth with a base of red granite (pl. 97, fig. 4). The total height of plinth and base is 0.375 m.; the diameter of the column which rose on it should have been about 60 cm.

The level of the plinth, -2.37 m., indicates the interior level of the building. Both the block and base were damaged by fire and are half-covered by the wall of the monastery. A little wall of *tufelli* attached to the block below the normal level of the building shows at its west end, as was pointed out by Professor J. B. Ward Perkins, the impression of a second block, at a distance of 3.15 m. from the first, using the approximate center to center measurement. The fluted drum of a cipollino column, 57 cm. in diameter, which had fallen in a southeasterly direction, lay near the impression left by the second block (pl. 97, fig. 5).

The position of modern graves kept us from finding the corresponding colonnade to the south at a probable distance of about 17 m., since the only possible spot on the path to the west (pl. 96, fig. 3, no. 4) was disturbed by what seemed to be 19th century foundations, and also prohibited the continuation to the west of the excavation of the north colonnade. The wall of this colonnade was, however, found inside the convent (fig. 3, no. 7) to the east of the red granite base. Here, however, at a distance of 2.75 m. from the center of the base, the wall in *opus listatum* was built against an earlier one of bricks, perhaps from the end of the 3rd or the beginning of the 4th century. This brick wall, after 1.75 m., that is 80.65 m. from the beginning of the apse, turns north and rises to the level of -1.04 m., well above the normal interior level of the building. Apparently it represents the remnant of a previous construction which was incorporated into the beginning of the north colonnade and in the façade of the north aisle of the main building.

In fact, on the same line were found two other elements of the façade, both however in the normal *opus listatum* structure. In the north wall of the monastery the angle between the façade and the main north wall, although to the east it lacked the facing, was identified by Professor A. M. Colini at the level of +0.35 m., that is, at about 3 m. above the interior level of the building. Thus the total length of the north wall, 82.50 on the exterior, could be established. Finally, in the cemetery underneath the street which separated the monastery from the *quadriporticus* (fig. 3, no. 6) the central part of the façade was found at a level of -2.77 m., exactly on the principal axis of the original building, at a distance of 81.10 m. from the chord of the apse. Its foundation wall, 0.97 m. thick, is thus equal to the colonnade wall and of the same structure.

It did not rise to the normal interior level of the building, but terminated, 0.40 m. below, with a smooth stratum of mortar.

The elements which were found are fortunately sufficient to reconstruct the plan of the building (pl. 97, fig. 6). The total length from the apex of the apse to the façade was 97.60 m. inside and 99.47 m. on the exterior. The measurements for the width are 34.20 and 36.00 m. respectively. The interior was divided into nave and aisles, of which the north one was found. The relationship between the interior width of the nave, presumably 17.0 m., and the diameter of the apse, 32.85 m. suggests that the aisles continued into the area of the apse as an ambulatory. The plan, therefore, must have resembled those of San Sebastiano, the construction recently discovered at Sant'Agnese on the Via Nomentana and at SS. Marcellino e Pietro at Tor Pignattara.⁸ Unfortunately in the building discovered in the Campo Verano the modern tombs prohibit the tracing of the details of the ambulatory. In contrast, however, with San Sebastiano the supports of the building were columns instead of pillars. Their intercolumnar distance of about 3.15 m. suggests that from the façade to the springing of the ambulatory 24 columns must have stood on each side. Another six or seven columns must have risen in the curve of the ambulatory. Thus the building must have rested on 54 columns with a total of 57 intercolumniations. The short distances between the columns would permit the reconstruction above the supports of either architraves or arches. For sound reasons we believe that there were architraves and that these architraves were re-used in the present Honorian nave of San Lorenzo. The thickness of the foundation wall of the colonnade, which is greater than that of the north and south exterior walls, causes one to think that above the colonnades rose upper walls, probably with windows like those of San Sebastiano and therefore that both the nave and aisles were roofed. The façade in the central part could have opened either in a central door or in a series of openings, presumably five.

⁸ For Sant'Agnese see R. Penotti, "Recenti ritrovamenti presso S. Costanza," *Palladio* n.s.6 (1956) 80ff. The excavations undertaken at Tor Pignattara in 1956 by Professors Deichmann and von Tschira of the German Archaeological Institute have not yet

The great number of fragments of amphorae and vases of terracotta and glass, of epitaphs and especially of tombs *a cappuccina* which appear to have covered the floor of the building demonstrate the cemeterial function of the building. This function is confirmed by the remains of small chapels or *cubicula* which surround the main building. In fact, it is just in the area of last year's excavation that, since 1863, numerous inscriptions of the 4th and 5th century have come to light, among them Damasian fragments and the sarcophagi of Licentius and of Flavius Magnus, dated 406 and 425-38 respectively.

The dating of the building may be based on the structure of the building, the lettering of the inscriptions and the types of vase fragments.⁹ All agree in suggesting the 4th century as the earliest date for the use of the building. The dating coincides with the indications in the documents relating to the construction of San Lorenzo. In fact, the *Liber Pontificalis* recognizes from the 4th century on, apart from the tomb of Saint Lawrence in the catacomb inside the hill to the north, only one basilica on the Verano, the foundation of which is attributed to Constantine. It seems that this same basilica is mentioned in epitaphs of the 5th and 6th century as the *basilica maior*. This situation changed only with the construction, between 571 and 590, of the basilica which Pelagius II built into the hill above the tomb of the saint. In fact, the itineraries of the 7th century note two large basilicas at San Lorenzo, one the "new, more beautiful one in which he rests," the other the *maior*. This latter, in 772-795, received a gift of two sets of 65 curtains each, eight less than the number of intercolumniations in the building just discovered in the Verano; but these eight might well have closed some other openings, such as doors. Thus we conclude that this building is in fact that *basilica maior*, the existence of which on this site Josi had already suspected in 1950.

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⁹ We wish to thank Professor Lawrence Richardson of Yale University for his kind assistance in dating the vase fragments, and Father Ferrua, S.J., for help in dating the inscriptions.

Myth and Epic in Mycenaean Vase Painting

VASSOS KARAGEORGHIS

PLATES 98-101

The character of Mycenaean vase painting is mainly ornamental; not only when it employs floral or abstract motives, but also when pictorial compositions are used. This has already been observed by Furumark;¹ he adds, however, that "there is little or nothing in Aegean art that can be justly claimed to be individual, historical or mythological."² The present writer will not discuss the bearing of this statement on the whole of "Aegean art" but will confine himself to Mycenaean vase painting alone.

The Mycenaean vase painting of the pictorial style, which appeared in the Levant ca. 1400 B.C. and flourished throughout the 14th and 13th centuries³ had only a very limited repertory of motives and compositions. The chariot group was its most favourite composition,⁴ but it was standardized from the very beginning and did not have any individual character. The human figure is often used purely conventionally in chariot compositions and occasionally in other groups,⁵ but it never occurs in complicated compositions in Mycenaean pictorial decoration. In the 13th century it almost disappeared and Mycenaean pictorial decoration is dominated by animal, fish and bird compositions of an exclusively decorative character.⁶ Unlike his Greek colleagues of six hundred years later the Mycenaean vase painter in the Levant was never so ambitious as to try and reach the heights of fine art. From the very beginning he stylized his motives and made his compositions simpler in order to decorate as many vases as possible in a short time, *à main levée*.⁷ To achieve this he tried to choose compositions which did not as a rule have human figures

in action, and his tendency was to reduce the figures of the composition to as few as possible until at the end he retained only one figure. His craft was considered a humble one, judging from the taste of his contemporaries for objects in precious materials and from what one reads in Homer, several hundred years afterwards.⁸ He, therefore, did not refine his craft like the contemporary stone carver or goldsmith, or even the wall painter, but remained a humble craftsman, far from the centre of his inspiration, the Aegean, trying to satisfy the taste of his Levantine patrons.⁹ In choosing his subjects he was always looking back to Aegean art for inspiration but often he was also influenced by his Levantine surroundings, as one can see in details of his compositions.¹⁰

J. M. Cook, speaking about early Attic vase painting, very rightly remarks that the spread of Homeric epic must have undoubtedly contributed to the appearance of epic and mythological scenes in late Geometric and post-Geometric vase painting.¹¹ This ought to be the case with Mycenaean vase painting, since myths and epics were circulating both in Greece and the Levant in Mycenaean times.¹² Their rarity in contemporary vase painting, however, may be explained as follows: a) The vase painter did not consider his craft suitable for the representation of such ambitious subjects. b) Myth and epic were in their formation¹³ in the heroic age and their best expression was song rather than pictures. The Mycenaean society, and even more the Levantine society, was less of a "book-minded" society, to use a modern term, than that of Classical

¹ A. Furumark, *The Mycenaean Pottery, Analysis and Classification* (hereafter MP) (Stockholm 1941) 430.

² *loc.cit.*

³ For a general survey of the Mycenaean pictorial style see *ibid.* 430ff.

⁴ *ibid.* 433ff.

⁵ *ibid.* 433ff.

⁶ For embroidery tricks in Mycenaean vase painting see V. Karageorghis, "Two Mycenaean Bull-craters in the G. G. Picrides Collection, Cyprus," *AJA* 59 (1956) 147ff.

⁷ *ibid.* 147.

⁸ *ibid.* 148; see also M. Robertson, "The place of vase painting in Greek art," *BSA* 46 (1951) 151.

⁹ The Mycenaean pictorial style flourished mainly in the

Levant. On the Greek Mainland very few pictorial vases have been found, and several of them are imitations of Levanto-Mycenaean. This is a controversial subject which the present writer treated at length in his doctoral dissertation. For recent discussions see S. A. Immerwahr, "The Protome Painter and some contemporaries," *AJA* 59 (1956) 137, n. 2.

¹⁰ E.g. the long robed figures which appear on chariot craters; cf. A. Evans, *The Palace of Minos at Knossos* IV, 413ff.

¹¹ J. M. Cook, "The cult of Agamemnon at Mycenae," *Geras A. Keramopoulou* (Athens 1953), 117, n. 1.

¹² For a recent discussion see T. B. L. Webster, "Homer and Eastern poetry," *Minos* 4, fasc. 2 (1956) 105f.

¹³ Cf. Luisa Banti, "Myth in Pre-classical Art," *AJA* 58 (1954) 310.

Greece. This is the same with Geometric art. One should expect Geometric painting to be full of mythological and epic scenes at a time when the Homeric epics were created.¹⁴ For the reasons stated above, however, there are comparatively few references to epic in Geometric vase painting. It is only in archaic and classical Greece, when myth and epic belonged to a very remote past and epic poems were received with a more or less academic interest, that representations of mythological and epic scenes in works of art were loved in the same way as one would love today an illustrated edition of the *Contes* or *Fables* by la Fontaine. Several scholars have up to now tried to find mythological representations in Mycenaean and Minoan seals, sealings and other works of art.¹⁵ The results, however, have been very poor and of not much certainty. Vase painting has received very little attention. Considering the great importance of such mythical and epic representations in Mycenaean works of art the present writer will examine a number of pictorial compositions on Mycenaean vases, all found and, as the writer believes, made in the Levant, which have been inspired in some way or other from mythological or epic subjects. These are very few, and differ quite distinctly from the large number of Mycenaean pictorial vases. They were produced by inspired vase painters who, occasionally, desired to create something different from their standard repertory.

1) *A chariot crater from Ras Shamra*¹⁶ (pl. 101, fig. 10)

Both sides of this crater are decorated with a chariot group. On one side, in front of the horses, instead of the usual grooms, there is a huge bird which is tied up to the ground from behind the head by means of a chain. The unusual size of the bird and the prominent place which it is given in the composition excludes the possibility that this is another of those decorative birds which appear in pictorial compositions towards the end of the 14th century and which have no connection whatsoever with the main composition. Professor Schaeffer, who studied this crater at length, rightly believes

that the bird forms an essential part of the composition and he adds that here we may have an allusion to a mythical subject.¹⁷ During the second millennium B.C., he says, there must have circulated in the Levant epic songs relating the combats and adventures between gods, heroes and monsters. It is very possible that there existed a legend relating to the chase and capture by heroes of a monstrous bird, probably an ostrich, the eggs of which were known in Greece and the Levant and often appear among tomb gifts of this period.¹⁸ The vase painter, who probably never saw such a bird, represented it entirely out of his own imagination.

Professor Schaeffer discovered yet another crater in a tomb at Enkomi in 1949¹⁹ dating to the beginning of the 14th century which bears on both sides a similar representation, or rather an episode from the same theme²⁰ (pl. 98, fig. 1). A huge bird covering almost the whole shoulder panel of the vase is flying over a rocky landscape, with open mouth, chasing a couple of men in a chariot. The charioteer is urging his horses with a whip, while his companion raises up his arms in terror at the sight of the monstrous bird. This is not a common chariot group composition. No doubt we have here an allusion to a specific story, an episode of which appears on the Enkomi crater, and another episode (evidently the final) on the Ras Shamra crater. Such an epic or myth did not exist, as far as we know, in the Greek lands. It is quite possible, however, that it existed in the Levant and that the Mycenaean vase painter became familiar with it.²¹ This would be yet another proof for the Levantine origin of these vases.

Professor Webster reminded the writer of the story of the fight between the cranes and the Pygmies which was popular in Greek mythology and art of the classical period. The fact that reference to this story appears already in Homer²² may prove its early date; its oriental associations (the Pygmies are said to live in Ethiopia, India or Scythia) may point to the place of origin of this myth. It is probable that a myth of this kind existed already in the Levant in Mycenaean times and from it originated the

¹⁴ For a recent discussion on the subject see T. B. L. Webster, "Homer and Attic Geometric Vases," *BSA* 50 (1955) 38ff.

¹⁵ Luisa Banti, *op.cit.* 308f. M. P. Nilsson, *The Minoan-Mycenaean Religion and its Survival in Greek Religion* (2nd ed. Lund 1950) 34ff.

¹⁶ C. F. A. Schaeffer, "Sur un cratère mycénien de Ras Shamra," *BSA* 37 (1936-37) 213, fig. 1; 215, figs. 2-3.

¹⁷ *Ibid.* 223ff.

¹⁸ *Ibid.* 224.

¹⁹ The writer would like to thank Professor C. F. A. Schaeffer, Membre de l'Institut, for his generosity in giving permission to publish a photograph of this vase and discuss it here; a fuller archaeological discussion of it, however, will appear in *Enkomi-Alasia II* (forthcoming).

²⁰ For episodes of the same theme appearing on different vases see V. Karageorghis, *op.cit.* 144.

²¹ Schaeffer, *op.cit.* 224.

²² *Iliad* 3.6.

Greek myth of the Cranes and the Pygmies. Though there are no indications that on either of these vases the Pygmies story is represented, it cannot be denied that it fits these representations quite well.

There is also a striking similarity, as regards the way of telling a story in vase painting, between the representation on the Enkomi crater seen in fig. 1 and that on a Caeretan Hydria in the British Museum,²³ where an epic scene is represented: a griffin chasing an Arimasps who flees away in a chariot.²⁴ The chariot driver is urging his horses hurriedly with a whip in his hand, while the griffin, with an open mouth, raises his forelegs ready to clasp the thief. One should expect a similar story on the two Mycenaean craters.

2) The "Zeus crater"²⁵ (pl. 98, fig. 2)

Both sides of this crater are decorated with a huge octopus; below one of the handles, however, there is a chariot composition with a robed figure in front of the horses holding what has been identified as a balance, and below the chariot group, in the foreground of the picture, a male figure holding an unidentifiable object.²⁶ As early as 1932 this composition was interpreted by Nilsson²⁷ as making allusion to an epic scene which is described twice in the *Iliad*, i.e. Zeus holding the scales of destiny in front of the warriors before they depart for battle.²⁸ This interpretation has been accepted by many scholars.²⁹ Furumark, however, rejects it,³⁰ but does not offer an alternative. There is no doubt that the vase painter was trying to represent a specific scene in which a sacerdotal figure, wearing a long robe, was taking part.³¹ Nilsson's interpreta-

tion seems convincing. The epic scene, like many others, must have had its roots in the Mycenaean period and the vase painter of this crater may have been well familiar with it. One should not, however, exclude the possibility that this composition may make an allusion to an oriental epic or myth, which is still to be discovered. Until then, however, Nilsson's interpretation will hold good.

3) Chariot crater B.M.C. 342³² (pl. 99, figs. 5-6)

This vase was found at Enkomi in 1896 and illustrations of one side of it, the best preserved, have appeared in various publications;³³ it represents a pair of chariot groups facing each other; between them a human figure holding both pairs of horses by the harness. The other side is less well preserved and has never up to now been illustrated. Only one chariot group is represented. In front of the horses two human figures, confronting each other, hold up between them a baby with outstretched arms. The figure near the horses is definitely a male, judging from his unclad legs, but of the other figure only the shoulders, arms and head are preserved. Such a scene appears for the first time in Mycenaean vase painting.³⁴ It is evidently a departure scene, with a hero nearer to the horses, bidding farewell to his wife and holding up his child, before he departs for battle. Such scenes must have been very frequent in the epics of the heroic age; in this particular case it is tempting to connect the vase representation with a scene in the *Iliad*³⁵ where Hector bids farewell to Andromache, and holds his child up in his arms before departing for battle.

²³ T. B. L. Webster, "A Rediscovered Caeretan Hydria," *JHS*

48 (1928) pl. xi.

²⁴ For a discussion on the Arimaspsian Epic see *ibid.* 202f.

²⁵ *The Swedish Cyprus Expedition* vol. I, pl. cxx, 3-4.

²⁶ Furumark, *MP*, mot.1:22; and also another on a vase from Verghi, near Pyla, *FA* 7 (1954) 132f, fig. 44.

²⁷ M. P. Nilsson, *Homer and Mycenae* (London 1933) 267; also *idem*, "Zeus mit der Schicksalswaage auf einer Cyprisch-Mykenischen Vase," *Bulletin de la Société Royale des Lettres de Lund* (1933) 29-43.

²⁸ *Iliad* 8.69; 16.658; 19.223; 22.209.

²⁹ See recently Luisa Banti, *op.cit.* 310. ³⁰ *op.cit.* 437, n. 1.

³¹ G. Björck ("Die Schicksalswaage" in *Eranos Löfstedtianus* [1954] 58f.) believes that the robed figure is a seer taking the omens. If, however, what is held by the robed figure is not a balance but an altar, then we may well have an allusion to another scene from the *Iliad*, where Priam goes to his courtyard and sacrifices to Zeus, asking a good omen before he sets off for the headquarters of Achilles (*Iliad* 24.305ff.). We could also, at the same time, interpret the appearance of the birds on the other side of the vase as representing the eagle(s) sent by Zeus; cf. also interpretation of bird on vase No. 6 (below).

³² *CVA Gr.Brit.*, 20/12.

³³ *ibid.*; F. Stubbings, *Mycenaean Pottery from the Levant* (Cambridge 1951) pl. vii, 5.

³⁴ One may consider two other chariot craters as representing departure scenes: the so-called "Window crater" (see V. Karageorghis, "The Mycenaean Window crater in the British Museum," *JHS* 77 [1957] 2nd part), and another crater from Ayia Paraskevi in the Metropolitan Museum of Art (see S. A. Immerwahr, "Two Mycenaean vases from Cyprus in the Metropolitan Museum of Art," *AJA* 49 [1945] 545, figs. 11-12). These compositions, however, are not of a specific character. We exclude here the Warrior vase as being of a late date.

³⁵ *Iliad* 6.474ff. Another similar epic scene is that of Alkmeon between Eriphyle and Amphiaros; it may be argued, however, that both figures are male judging from their hair, though the Mycenaean vase painter should not be expected to render sex accurately; even so, this scene may be interpreted likewise, with the *dramatis personae* changing into Telemachus between Agamemnon and Odysseus; one should recall that Odysseus feigned madness and avoided the call up by ploughing sand, but Agamemnon put Telemachus in front of the plough.

4) *The Homage Scene crater* (pl. 99, figs. 3-4)

This interesting vase, now exhibited in the Département des Antiquités Orientales in the Louvre, has somewhat been neglected, and it is known only from drawings in its first publication.³⁶ One side of it is decorated with two almost identical scenes: three spearbearers in procession in front of a seated "Goddess." On the back of the throne a bird (dove?). The other side is fragmentary; it is decorated with human figures in procession. Furumark discussed it at some length, and rightly associated it with the Chieftain vase of steatite and the Tiryns ring.³⁷ There is no doubt that the vase painter wanted to represent here a religious scene with a goddess or a priestess (bird on the back of the throne suggesting divine qualities)³⁸ to whom spearbearers (warriors) come to pay homage or to bring gifts. Twice in the Linear B tablets reference is made to a Dove Goddess who, in one case, is the recipient of gifts.³⁹ On the Tiryns ring *genii* bring gifts to a goddess seated on a throne with a dove behind her.⁴⁰ She may well be associated with the Dove Goddess of the tablets, and so may the goddess of the vase. There is an even more striking similarity between the representation on this vase and that on a ring from Mycenae where a seated figure is giving a scepter to a young king.⁴¹ The attitude of the young person holding a spear and stretching one arm forward is very much like the corresponding figures on the vase. Whether the vase painter had in mind a specific reference to this scene, either in contemporary epic or myth, or whether he was taking his subject from the major

art of fresco painting, it is difficult to determine. There is no doubt, however, that this is a representation of a specific scene at a specific moment with specific persons involved.

5) *Stockholm crater* (pl. 100, figs. 7-9; pl. 101, fig. 11)

In the Medelhavsmuseet in Stockholm there is a very fragmentary crater from Enkomi Tomb 3, No. 278, of the Swedish Excavations of 1930.⁴² It is referred to as a crater with "ornaments resembling conventionalized drawings of algae around the shoulder" in the Catalogue of finds from this tomb.⁴³ In fact the representation on the shoulder consists of a human figure picking fruit from a tree. He wears a short chiton and a conical helmet (?).^{43b} One should exclude the possibility that he is felling a tree because he does not hold any tools; furthermore the presence of the fruit indicated with small circles suggests some association between them and the human figure. The writer discussed with Professor Webster the possibility that the figure may be Herakles in the Garden of the Hesperides.⁴⁴ It is quite possible that this myth originated in Mycenaean times.⁴⁵ The short chiton, which Herakles wears in all his representations in classical art, and the helmet, suggest that this is a warrior, a hero, and not an ordinary figure, usually represented nude, or a sacerdotal figure, who usually wears a long robe. On the other hand the myth may have already existed in Oriental mythology. The writer accepts Professor Webster's suggestion that "the idea of getting fruit for eternal life is very old and Eastern."⁴⁶

that the Aegean representations of this theme may have oriental roots (see Evans *op.cit.* 408ff).

⁴² The fragments of this vase were studied by the writer in the storerooms of the Medelhavsmuseet in Stockholm, where the Cypriot Collections are kept. Dr. Olaf Vessberg, the Curator of the Museum, offered kind assistance in many ways, as well as the members of his staff. The writer's thanks are due to them all.

⁴³ *The Swedish Cyprus Expedition*, vol. I, 85.

^{43b} See H. L. Lorimer, *Homer and the Monuments* (London 1950) 238ff.

⁴⁴ The writer's thanks are due to Professor Webster for a valuable discussion on this composition of which he was first shown a sketch and which he eventually saw on the actual crater in Stockholm.

⁴⁵ The name of Herakles does not appear in the Mycenaean tablets up to now, but the Herakles myth might have been already in existence in Mycenaean times. There are five *-klewes* names on the Linear B tablets (information from Prof. Webster).

⁴⁶ Fr. Dornseif, *Kleinschriften I, Antike und Alter Orient Interpretationen* (Leipzig 1956) 217, suggests that the myths of Herakles and the Hesperides, and of Adam and Eve in the Garden go back to the same early Oriental story.

³⁶ E. Pottier, "Documents céramiques du Musée du Louvre," *BCH* 31 (1907) 232, figs. 12-14.

³⁷ Furumark, *MP*, 444.

³⁸ For the divine significance of birds see Nilsson, *The Minoan-Mycenaean Religion and its survival in Greek Religion* (2nd ed. Lund 1950) 330ff.

³⁹ M. Ventris and J. Chadwick, *Documents in Mycenaean Greek* (Cambridge 1956) 127, 288; see also T. B. L. Webster, "Early and Late Homeric diction," *Eranos* 54 (1956) 43, n. 2; R. L. Palmer, *Achaean and Indo-Europeans* (Oxford 1955) 21. See also Palmer, "A Mycenaean Tomb Inventory," *Minos* 51 (1957) 87, where a goddess is mentioned in the decoration of a jug.

⁴⁰ A. Evans, *The Palace of Minos at Knossos*, vol. IV, 460, fig. 385.

⁴¹ Nilsson, *op.cit.* 351f, fig. 161. See also J. Forsdyke, "Minos of Crete," *Journal of the Warburg and Courtauld Institutes* 15 (1952) 19, pl. 3B. The subject of a procession of figures in front of another seated figure is common in Oriental art, (e.g. G. Loud, *The Megiddo Ivories I* [Chicago 1939] pl. 4, 32-33; Evans, *Palace of Minos IV*, 409, fig. 339; Contenau, *La Glyptique Syro-hittite* [Paris 1922] pls. 11-x; C. F. A. Schaeffer, *Ugaritica III* [Paris 1956] figs. 92-99) and it is quite probable

6) *Enkomi crater, Tomb 3/262*⁴⁷ (pl. 101, fig. 12)

The representation on this crater is quite unlike the common pictorial compositions of Mycenaean vase painting. It is one of the rare cases where the vase painter tried to represent something highly ambitious, a scene from naval life in which as many as eight figures take part.⁴⁸ On one side of the vase shoulder a ship is represented "in section" showing the lower deck, with four human figures, and the upper deck, with two long-robed, armed and helmeted(?) figures confronting each other on either side of the mast.⁴⁹ Outside the ship, on shore(?), two long-robed, armed and helmeted figures facing the prow and the stern respectively (figure on left missing). A bird above the prow flies to the right in front of the long-robed figure. On the other side of the vase the composition is almost identical, but the figure facing the prow does not wear a long robe, and has arms stretched towards the ship.

There is no doubt that the armed and helmeted figures are warriors and their association with the ship suggests, of course, a naval expedition.⁵⁰ The presence of warriors on shore denotes that the expedition has not yet set off. There is a marked contrast both in size and uniform between the figures on the lower deck, and those on the upper deck and on shore. The latter, with their long robes, may signify the leaders in the expedition.

It is hard to believe that the vase painter, who took all the pains to represent something outside his usual repertory, did not have any specific scene in mind, with specific people taking part, but was simply portraying a scene from everyday life without any reference to a well known naval expedition. Such famous expeditions were very frequent in myth and epic in the Mycenaean period, e.g., the Trojan

War, the Argonauts. There is a special feature in this composition which the writer would like to bring out: the bird flying above the stern of the ship, in front of one of the long-robed figures.⁵¹ In such a composition, where all motives are significant, except of course the dotted circles, one should expect the bird to be significant too, and not simply decorative.⁵² In Homer there is often a reference to a seer or a king asking Zeus to send a good omen before an important enterprise is started.⁵³ If the composition really represents a preparation for a naval expedition it would not seem unnatural to believe that the presence of the bird denotes the specific moment when the leader of the expedition asks Zeus to send a good omen, "an eagle flying to the right hand side" and Zeus granted this request.⁵⁴

The above are only a few instances of vase representations related to myth or epic. There may be more, even among the already published Mycenaean vases, which have not yet been interpreted with accuracy. One may mention: a crater fragment in the British Museum, B.M. C339,⁵⁵ where a chariot group is represented, followed by an armed robed figure and another figure holding an umbrella; in the background there are several vase forms; the "Window crater,"⁵⁶ where ladies in windows bid farewell to departing heroes; a crater from Enkomi, Swedish Tomb 11/33,⁵⁷ where a chariot group is chased by a huge fish. It is hoped that other scholars, who are more familiar with Greek and Oriental Mythology and Epic will continue this research, which no doubt will prove useful for the students of Mycenaean and Near Eastern civilizations.⁵⁸

THE CYPRUS MUSEUM, NICOSIA

Religion, 330f.

⁵⁴ The writer is fully aware of the dangers of abusing one's imagination in the interpretation of such scenes. But on the other hand, because of the lack of guidance from the Mycenaean vase painter, who, unlike his classical colleague, did not identify for us the figures of his compositions, one has to suggest the most probable interpretation of compositions which are not purely ornamental.

⁵⁵ H. B. Walters, *Catalogue of Greek and Etruscan Vases in the British Museum*, Vol. I (part ii) fig. 110. See also Furumark, *MP*, 435, fig. 75.

⁵⁶ V. Karageorghis, "The Mycenaean 'Window-crater' in the British Museum," *JHS* 77:2 (1957) 269ff.

⁵⁷ *The Swedish Cyprus Expedition*, vol. I, pl. cxxi, 6. It may be possible to connect the theme on this vase with that of the Ras Shamra and Enkomi craters discussed above.

⁵⁸ Professor Webster read the first draft of this article and made valuable suggestions. He is not, however, responsible for any errors which may be found in this final version.

⁴⁷ *The Swedish Cyprus Expedition*, vol. I, pl. cxxi/3-4; Sjöqvist, *Problems*, fig. 20/3; this vase belongs to the beginning of the Mycenaean IIIB, ca. the first quarter of the 13th century.

⁴⁸ There is a rather similar naval scene on the Arkesilas Vase, in Archaic Greek painting. Though the theme is different, there are several similarities between the two: the vivid movement of the figures in the deck, naturally smaller than the rest, and the rendering of the ship in section.

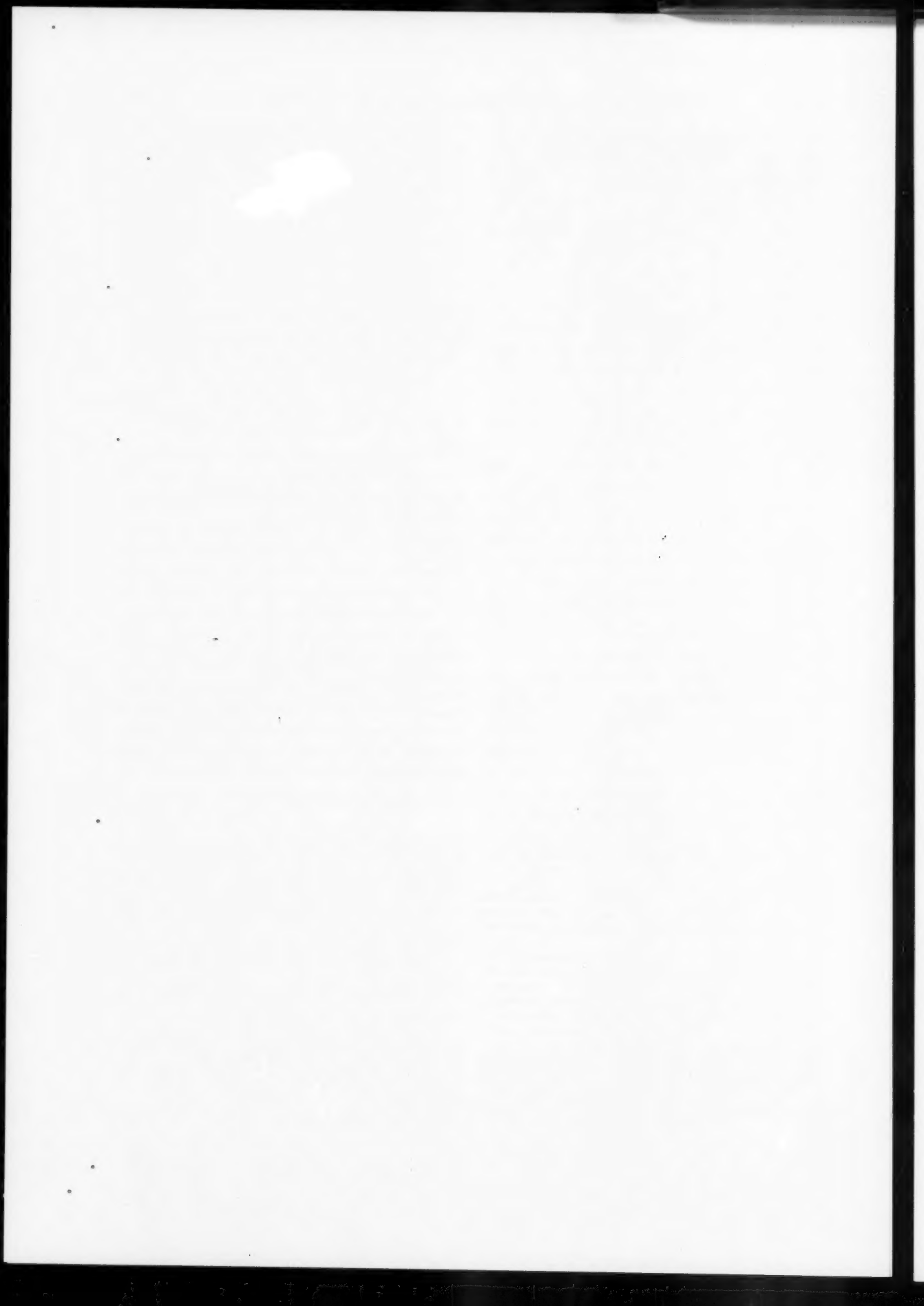
⁴⁹ For a discussion on this particular ship see G. S. Kirk, "Ships on Geometric Vases," *BSA* 44 (1949) 116f.

⁵⁰ See Cl. F. A. Schaeffer, *Enkomi-Alasia I*, 341 and n. 2; the writer would like to thank Professor Schaeffer for a most useful discussion on the interpretation of this composition.

⁵¹ Note that the bird is flying, with open wings, and not perching on the stern of the ship.

⁵² The place which is given for it in the composition can hardly suggest that the bird figure simply fills an empty space.

⁵³ *Iliad* 24. 292-294, 315f; for a discussion on "Bird Epiphanies of the Gods," see M. P. Nilsson, *The Minoan-Mycenaean*



The Argos Painter and the Painter of the Dancing Pan*

A. D. URE

PLATES 102-107

The Metropolitan Museum of Art possesses a small red-figured bell krater¹ decorated on each side with two standing youths, one holding a phiale, and each of the others a thyrsos (pl. 102, figs. 1, 2). It is the work of a Boeotian to whom Dr. Lullies² has given the name of Argos painter from his cup in Athens showing the death of Argos.³ He seems to have been the most prolific painter of red-figured vases in Boeotia in the second half of the fifth century. Lullies assigned thirteen vases to his hand, and since the publication of his article three more have been added: a bell krater in Rochdale, attributed by Professor J. M. T. Charlton;⁴ two skyphoi, one in Karlsruhe⁵ and another in Bologna, attributed by Dr. G. Hafner.⁶ I wish to add here the New York krater and six other vases or fragments, bringing his total to twenty-three.

The New York krater resembles the only krater attributed by Lullies to the Argos painter, Athens 12230 (Lullies no. 2, pl. 14.1,2), in shape and in the general scheme of decoration, except that on the rim it has a laurel wreath, while the Athens vase has bars bordered by dots above and below. The laurel exactly corresponds with the wreath on the rim of his Phineus skyphos in Berlin (Lullies no. 4, Neugebauer *Führer* II pl. 70), though painted the reverse way, pointing right, with the rounded leaves at the bottom and those of more angular shape at the top. It is obvious that, owing to the sharply outcurving rim, it was found easier to paint the wreath with the vase upside down. The New York handle palmette (pl. 103, fig. 7), with side tendrils

terminating in an elongated leaf pointing upwards, is like those on the kraters in Athens and Rochdale and on most of his skyphoi. The attitude of the young men, standing at ease with arm akimbo, finds parallels on Lullies nos. 7, 8, 10 and on the skyphos in Bologna. The faces with their low foreheads, sharp noses and carelessly drawn mouths, are familiar in the Argos painter's work. The glaze lines used for nipples, ribs and muscles are more dilute than usual, but the drawing follows his normal practice. Only the nipples, roughly round or horse-shoe shaped, are a little unusual, for normally they are indicated merely by a black dot or a short dash. Nevertheless they find a counterpart on the skyphos in Bologna (*CVA* fasc. iii pl. 607. 1, 2) where this rendering is seen on the youth on the left on each side of the vase, while dots are used for the youth on the right of the reverse. In general the New York youths correspond very closely with those in Bologna.

We find a contrast to the sedate young men of the New York vase in the Boreas on a skyphos in Athens,⁷ a sturdy, vigorous little fellow, his hair and beard wildly tossing in the wind as he dashes in pursuit of Oreithyia, who is seen fleeing on the other side of the vase (pl. 102, figs. 3, 4). We may note the likeness of Boreas to the Phineus on the skyphos in Berlin, and of his wings to those of the Harpy on the same vase, but the figures are so close to the normal work of the Argos painter that there is no need to enlarge on resemblances in detail. The same may be said of an amphoriskos in Oxford⁸

which has enabled me to make several journeys abroad, in the course of which I studied a number of the vases dealt with here.

¹ Inv. 49.94.2. Ht. 0.235m., width with handles 0.27m.

² *AM* 65 (1940) 15f. This article will be referred to as "Lullies."

³ Athens 1407 CC1361, Lullies pl. 13.1, 2.

⁴ *AJA* 55 (1951) 336f, pl. 33.

⁵ B 157 *CVA* Karlsruhe fasc. i pl. 37.6,7.

⁶ *op.cit.* (supra n. 5) 47 under no. 6; illustrated *CVA* Bologna fasc. iii pl. 607.1,2 and here pl. 105, fig. 18.

⁷ Athens 1719. Ht. 0.11m.

⁸ Inv. 1936.612. Ht. 0.08m. *BSA* 41 (for 1940-45) 14.

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which shows a woman on each side, one holding a mirror and a kalathos, the other a basket (pl. 102, figs. 5, 6). Oxford also possesses a fragment of a kantharos⁹ with a woman in a peplos (pl. 103, fig. 11), very near to the Artemis of the Athens krater (Lullies pl. 14.1). Marburg has three kantharos fragments, two of them showing a youth wearing the pilos, akin to the warrior of the Athens kantharos 1374 (Lullies pl. 17.2). On one he holds a spear, on the second he is about to throw a stone. On the third there remains only a hand grasping a stone and an egg border on the rim as on the Oxford fragment.

Lullies attributed to our painter five kantharoi. There is another in Nauplia, to be published by Mrs. L. Ghali in her forthcoming study of the red-figured vases in Nauplia museum.¹⁰ It is mentioned by Lullies, though not in connection with the Argos painter. He refers to it (*op.cit.* 20) as the earliest Boeotian red-figured kantharos of this shape known to him, and dates it about 430. That it is a comparatively good and probably early work of the Argos painter is indicated by both shape and decoration. The shape corresponds exactly with that of two of his kantharoi, Athens 1373 (pl. 104, fig. 16) and 1374. There is an egg border at the rim, a key running down the sides of the panels and bars at the bottom which are all exactly reproduced on other vases from his hand. On one side a woman moves to right with a phiale in each hand; on the other a warrior turns to the left as though facing the woman on the front of the vase. Behind each there is a stele. Both figures are very like those of the Argos painter's kantharos Athens 1374 (Lullies pl. 17), though the execution is better. The forward movement of the Nauplia woman is repeated in the Athens youth with petasos and spears going out to hunt (Lullies pl. 17.1); the drawing of shoulder and arm is similar, and so is the treatment of the folds on both the peplos of the woman and the cloak of the hunter. The warrior on the Nauplia vase with pilos, spear, shield emblazoned with the Kadmeian snake and cloak slipping off the shoulder is, in spite of the difference of posture, equally close to the warrior on the reverse of Athens 1374 (Lullies pl. 17.2). Points of resemblance in detail corroborate the attribution to the Argos painter, e.g. the pattern on the head of the stele behind the Nauplia warrior corresponds

with that on the basket of the woman on the Oxford amphoriskos (pl. 102, fig. 6). The different impression made by the Nauplia kantharos when compared with most of the Argos painter's work is due entirely to the greater care given to the drawing.

A more difficult question is raised by a skyphos in Athens¹¹ (pl. 103, figs. 7-10 and Lullies pl. 27). Lullies discusses the vase (*op.cit.* 23) and observes that the figure on the back recalls the Argos painter. The vase is remarkable in several ways. The main scene is unusually ambitious for a skyphos. In the foreground we see Aphrodite making her toilet. She sits on a stool, drawing aside the diaphanous veil that covers her head and shoulders, and looking at her reflection in a mirror. In front of her stands a large basin on a pedestal, and beyond it a much damaged figure of Eros pouring water into the basin from a ewer. In the background we see a hill with flowers growing on it, and behind are three satyrs who have been peeping over the hilltop at the scene below them. Those to right and left look at one another with gestures of astonishment. The one in the middle is still gazing with all his eyes. In contrast to this complicated scene the back of the skyphos is decorated with a single quiet figure—Eros with large wings outspread, holding in both hands a long fillet. The space beneath each handle is filled with an unparalleled extravaganza of palmettes.

It is only the Eros on the back of the vase which recalls the Argos painter. Here the resemblance is striking, the figure being particularly close to the youth on the right on each side of the New York krater, though better drawn. The wings are like those of Boreas on the Athens skyphos (pl. 102, fig. 3) and of the Harpy tormenting Phineus on the Berlin skyphos (Neugebauer *Führer* II pl. 70). The drawing of eyes, breasts, ribs and legs is typical of the Argos painter, and even the extraordinary rendering of the fillet finds a reflection in his work. The loose end of the fillet dropping from the right hand of Eros presented the painter with a difficult problem, for if it dropped vertically down it would have fallen directly in front of the wing and would have become confused with the wing feathers. He therefore placed the bottom of the fillet clear of the wing and drew two parallel lines obliquely across the wing feathers to connect it with the hand. This ex-

⁹ Inv. 1952.237.

¹⁰ Glymenopoulos coll. 218. Ht. to rim about 32.5m. I am indebted to Mrs. Ghali and to Professor Saul Weinberg for

photographs of this vase.

¹¹ Inv. 1406 CC1940. Ht. 0.20m., diam. 0.205m.

pedient recalls the use of a pair of parallel lines running across the palm of the hand to indicate the thumb on the Bologna skyphos and the Athens kantharos 1373.

Turning back to the front of the vase we find practically nothing in the scene of the toilet of Aphrodite which can be brought into relation with the Argos painter. The wings of the Eros standing beside the wash basin are of a different shape from the wings on the Phineus and Boreas skyphoi, different even from those of the Eros on the other side of the same vase; the dress of Aphrodite and the drawing of her eye and of her face generally are unparalleled in his work; the satyrs are of a totally different character from those of the Argos vase (Lullies pl. 13), the Kabeiric skyphos and the fragment from the Kabeirion (Wolters-Bruns *Das Kabirenheiligtum bei Theben* pls. 25, 23). Further, the whole scene, which gives the impression of being a copy or adaptation of a larger picture, is accommodated to the field with considerable incompetence. The head and shoulders of Aphrodite were drawn on such a scale that there was insufficient room left for her legs. The same difficulty in the case of her attendant Eros was overcome by painting out the reserved groundline and putting his feet down on a lower level. Such shortcomings are not characteristic of the Argos painter. His figures are generally drawn in haste and carelessly, but they are always well adapted to the field they have to fill.

There is, however, in the whole scene a strong resemblance to black-figure work of the Thetis painter,¹² as Lullies has already pointed out (*op.cit.* 23 and n. 4). The veil of Aphrodite and the border of her chiton are very close to those of the Nereids on the Thetis vase in the Louvre (Wolters-Bruns *op.cit.* pl. 36.1,2), and the satyrs have something in common with the grotesque figures on his skyphos of Kabeiric shape in Berlin (3286, Wolters-Bruns *op.cit.* pl. 28.3). I have suggested elsewhere¹³ that this vase was the work of a pupil or associate of the Thetis painter. We have to consider whether this pupil or associate was the Argos painter, responsible for the whole of the vase, or whether there were two painters engaged on this one skyphos, one being of the Thetis school, who decorated the front of the vase, and the other the Argos paint-

er, who painted the solitary Eros on the back. The former alternative is unlikely, for, as we have already seen, the style of the front of the vase bears practically no resemblance to that of the Argos painter. It is hard to believe that he could have painted the Aphrodite scene, even if closely copying the work of another. It is, on the other hand, quite possible that for some reason or other he collaborated on this occasion with a companion who was one of the Thetis painter's circle. If so, the Argos painter was probably responsible for the bracelets round the handles of the skyphos, which consist of fattish vertical bars with dots above and below, for this is the motive that decorates the rim of his krater in Athens (Lullies pl. 14) and is not, as far as I know, used by the Thetis group. The floral patterns must certainly be put down to the other man. The untidy, undisciplined conglomerations of palmettes (pl. 103, figs. 9, 10) are far from the Argos painter's conventional patterns. These fall into four groups: (a) a simple palmette with side tendrils ending in leaves that stand erect, as on the New York krater (pl. 105, fig. 17), the kraters in Rochdale and Athens, and on most of his skyphoi; (b) as (a), but with the leaf turning down over the tendril as on the Argos cup itself (Lullies pl. 13); (c) as (b), but with an extension of the side tendrils, as on the right of the palmettes on the skyphos in Bologna (pl. 105, fig. 18) and in Karlsruhe; (d) an elaboration of (b) into a two-tier design, as on the skyphos of Kabeiric shape (Wolters-Bruns *op.cit.* pl. 41). In contrast to these the Aphrodite skyphos has four palmettes on each side, all differing from one another, and the methods employed for knitting them up into a pattern are different under each handle but equally unhappy. The design does not in the least resemble those of the Argos painter, the Thetis painter,¹⁴ or anyone else. It may, however, be worth noting that the fine dots in the hearts of two of the small lateral palmettes recall the Thetis painter's frequent use of dots to adorn small objects, as, for instance, the crestholder on the helmet of Achilles carried by a Nereid on the Louvre Thetis vase (Wolters-Bruns *op.cit.* pl. 36.1).

The Argos painter's kantharoi are all of the large high-stemmed kind characteristic of the polyandron of the Thespian who fell at Delium in 424,¹⁵ but

handle).

¹² *AA* (1933) 31. Named Mystenmaler by Miss Bruns, *Kabirenheiligtum* 105f.

¹³ *BSA* 41 (for 1940-45) 25.

¹⁴ All b-f, see *BSA* 41 (for 1940-45) 24f, pl. 7-5, 6; *Eph. Arch* (1890) 133; Lullies pl. 26 (partly visible under the

¹⁵ Excavated by Professor A. D. Keramopoulos in 1910, *Praktika* (1911) 153f. The pottery from the polyandron is unpublished, with the exception of the r-f vases dealt with by Lullies 8-13, pls. 4-7.

taller and slenderer than normal. It is instructive to compare them with those of the slightly earlier painter of the Great Athens Kantharos¹⁶ (GAK). Two of the three kantharoi decorated by the painter of GAK are shorter and sturdier (cf. Lullies pl. 21), but the great Athens kantharos itself (Collignon-Couve 1583 *Catalogue* pl. XLVIII) approximates those of the Argos painter in slenderness. The moulded ring round the middle of the stem is treated by the Argos painter in various ways. On the Nauplia kantharos and Athens 1373 (pl. 104, fig. 15) and 1374 it is left unpainted, as it is also on all three kantharoi by the painter of GAK. On the Mainz kantharos it is black with incised grooves to mark it off above and below¹⁷ (pl. 104, figs. 13, 14). Athens 1420 (pl. 104, fig. 16) is similar, but with a groove above only, while on Athens 1373 the moulding, though itself reserved, has a rather unnecessary incised groove below it. The Argos painter's handles are of two shapes. Those of the Mainz kantharos sweep round in a wide curve to join the base of the cup, like those of the painter of GAK. In all the others (with the possible exception of Athens 1419, which I have not seen) the handles close in more sharply, making a comparatively narrow angle at their junction with the bottom of the wall of the vase. Athens 1420 is the only one which lacks crosspieces and spurs.

A more remarkable peculiarity of Athens 1420 will be noticed in the illustration on plate 104. The young man striding to the right has a human face drawn in outline on his left thigh. This calls to mind the small outlined faces reflected in mirrors, such as that already noticed on the Aphrodite skyphos and another which we shall see later on a vase by one who seems to have been close to the Argos painter. Mirrors with reflected faces were evidently a familiar accessory at this time in the circle in which the Argos painter moved, though we have none on existing vases from his hand. It is difficult to see why such a face should be drawn here. The obvious guess is that it is a tattoo mark, but it seems too large. It is possible that some fellow-worker, about to draw a mirror, mischievously tried out a reflected face on his neighbour's vase when it was imprudently left unattended. The drawing, however, looks like that of the Argos painter himself.

¹⁶ Lullies 18, pls. 19-21.

¹⁷ The black ring marked off by incised grooves is found on six of the eleven black kantharoi of this shape from the Rhitsona grave 123, which is to be dated about 424, and on nine out of twenty-three of this shape from the somewhat earlier grave 139;

The following is a revised list of the vases by the Argos painter. Lullies' numbers are given in brackets.

BELL KRATERS

1. New York 49.94.2. Pl. 102, figs. 1, 2, pl. 105, fig. 17. *A* and *B*. Two youths.
2. (L 2). Athens 12230. Lullies pl. 14.1,2. *A*. Apollo and Artemis. *B*. Two boys with lyres.
3. Rochdale. *AJA* 55 (1951) pl. 33. *A*. Dionysos and maenad. *B*. Apollo and Artemis. (Charlton)

DEEP CUP

4. (L 1). Athens 1407 CC1361. Lullies pl. 13; *JDI* 18 (1903) 48f, figs. 5, 6; Brommer *Satyrs* fig. 9. *A*. Fluteplayer and dancing satyr; Hermes killing Argos. *B*. Hermes bringing the child Dionysos to a nymph; two other nymphs looking on.

SKYPHOS OF KABEIRIC SHAPE

5. (L 3). Athens 10423, from the Kabeirion. Wolters-Bruns *Das Kabirenheiligtum bei Theben* pls. 25, 41.6. *A*. Dionysos and maenad with a satyr piping. *B*. Three maenads.
6. (L 6). Athens, fr. from the Kabeirion. Wolters-Bruns *op.cit.* pl. 23.3. Satyr standing by an altar, pouring into a kantharos held by a figure now lost.¹⁸

SKYPHOI

7. (L 5). Athens 12589, Nicole 1078. *A*. Lullies pl. 15.1. *A*. Apollo with lyre and woman with thyrsos and phiale. *B*. Two women pouring libations at an altar.
8. (L 4). Berlin 3413. *A*. Neugebauer *Führer* II pl. 70. *A*. Phineus and Harpy. *B*. Scylla and youth with bow.
9. Athens 1406 CC1940. Lullies pl. 27. Pl. 103, fig. 8. Side *B* only. Eros holding a long fillet.
10. Athens 1719. Pl. 102, figs. 3, 4. *A*. Boreas. *B*. Oreithyia.
11. (L 8). Athens 12266 Nicole 1081. *A*. Lullies pl. 15.2. *A*. Dionysos with thyrsos and Apollo with lyre and plectrum. *B*. Two youths, each standing before an altar.
12. Bologna Pal. 736, Pellegrini I no. 510. *CVA* fasc. iii pl. 607.1,2; here pl. 105, fig. 18. *A*. Youth facing woman who sits on a rock. *B*. Two youths (Hafner).

see Ure *Sixth and Fifth Century Pottery from Rhitsona* 36, 81, 94, 101 and pl. x 123-7.

¹⁸ Lullies puts this fragment among his skyphoi, but it is described in Wolters-Bruns as from a Kabirennapf, *op.cit.* 131.

13. Karlsruhe B157. CVA fasc. i pl. 37.67. *A.* Two women, one with phiale and tray of offerings. *B.* Two women, one with phiale and staff. (Hafner)

14. (L 7). Tübingen F3, two fragments. Wattinger *Griechische Vasen in Tübingen* pl. 42. (a) Youth and part of a palmette. (b) Youth with lyre and woman.

AMPHORISKOS

15. Oxford 1936. 612. Pl. 102, figs. 5, 6. *A.* Woman with mirror and kalathos. *B.* Woman with basket.

KANTHAROI

16. Nauplia, Glymenopoulos 218. *A.* Woman with phiale in each hand; behind her a stele. *B.* Warrior in pilos and cloak with shield and spear; behind him a stele.

17. (L 10). Athens 1373 CC1587. Pl. 104, fig. 15; Lullies pl. 16.1.2. *A.* Youth with spear standing before seated man. *B.* Youth with spear and shield standing before seated man.

18. (L 11). Athens 1374 CC1584. Lullies pl. 17.1, 2. *A.* Warrior in pilos and cloak with shield and spear. *B.* Youth in cloak, hunting boots and petasos with two spears.

19. (L 12). Athens 1420 CC1585, from Phocis. Pl. 104, fig. 16. *A.* Seated youth with tray and phiale and youth moving to left with tray and thyrsos. *B.* Seated youth with tray and youth moving to right with tray and phiale; on the inner surface of his left thigh is drawn the outline of a face.

20. (L 13). Athens 1419 CC1586, from Phocis. *A.* Two youths pouring libations before an altar. *B.* Youth moving to right with tray and phiale and standing youth with tray.¹⁹

21. (L 9). Mainz University, formerly Preyss, then for a time on loan to Erlangen. Pr. 8 of Grünhagen *Antike Originalarbeiten des arch. Inst. Erlangen* 88. From Thebes. Pl. 103, fig. 12, pl. 104, figs. 13, 14. Auktionskatalog Helbing Juni 27-28 1910 pl. 2.100. *A.* Youth with phiale, shield and spear standing before seated woman with kalathos. *B.* As *A.*, but the positions reversed and the youth has no phiale. On the handles a laurel spray.

22. Oxford 1952. 237, fragment. Pl. 103, fig. 11. Woman; border of eggs at rim.

¹⁹ I know this vase only from Lullies' description.

²⁰ Ht. 0.11m. The whole surface ruddled; a wash of deep brown over Pan's tambourine; on the base three circles; foot-rim black all over.

²¹ Ht. 0.19m. The whole surface ruddled; underside of foot

23. Marburg University, three fragments, probably from two kantharoi. (a) Head of youth in pilos holding spear. (b) Head of youth in pilos with arm raised about to hurl a stone; border of bars at rim. (c) Hand with stone; border of eggs at rim.

Another Boeotian vase-painter of the same period produced work which resembles in many ways that of the Argos painter. We will call him the painter of the Dancing Pan from the skyphos in Kassel that heads the list below. He was a rather better painter than his contemporary, and probably less prolific, for only five of his vases appear to survive. They are as follows:

SKYPHOI

1. Kassel, Hessisches Landesmuseum T426. Pl. 105, fig. 20, pl. 106, figs. 22, 23. *A.* Pan, adult and bearded, dancing, tambourine in hand. *B.* Pan, beardless and childish, seated on a rock piping.²⁰

2. Market. Pl. 105, fig. 21. *A.* Apollo with lyre. *B.*?

BELL KRATERS

3. Yale, Stoddard Collection 130. Pl. 105, fig. 19, pl. 106, figs. 24, 25; Baur *Cat.* fig. 45. *A.* Woman with tambourine, dancing. *B.* Eros seated on a rock piping; before him a woman appears to be mounting a small platform.

4. Athens 1367 (5900). Pl. 106, fig. 26. *A.* Eros, sitting on the rim of a water basin, holding aryballos and strigil; on the left a Pyrrhic dancer, on the right a woman looking at her reflection in a mirror. *B.* Lost, except the head and torso of a bearded man.²¹

CALYX KRATER

5. Athens 12597 Nicole 1118. Pl. 107, figs. 27-31. *A.* Two Erotes at a water basin watching a pair of fighting cocks; on the right a woman holding an aryballos. *B.* A woman seated beside a wool basket with a companion leaning on her chair back; in front of her two women, one offering a hare to the other.²²

The handle florals of 1 and 3 are very similar to the Argos painter's simple version *a* (supra), the main difference being that fleshy, shapely leaves spring from the axillae of the spirals and fill the space below them, while the corresponding leaves in the Argos painter's work are generally no more

unpainted.

²² Ht. 0.24m. Dark brown wash for the water in the basin; much use of diluted glaze on wings; upper part of the inside of the vase painted black with one reserved band, lower part unpainted; underside of foot unpainted.

than angular reserved spaces missed by the brush when the background was filled in. Similarly, while the Argos painter in painting round the outlines of the palmettes tends to cut off the tips of the leaves by bringing the brush round in a single uninterrupted sweep, the painter of the Dancing Pan scallops round the palmette, leaving a rounded tip to each leaf. Compare the Argos painter's florals, figs. 17 and 18 on plate 105 with those on the Yale krater and the Kassel skyphos, figs. 19 and 20 of the same plate. On the Yale vase the scalloping brush marks are particularly clearly seen. The floral of the Athens krater with the Pyrrhic dancer, which is not illustrated, corresponds with the two latter in every respect, except that most of the leaves on the tendrils have been crowded out by the broad three-figure scene. On the Apollo skyphos they seem to have been omitted from choice.

The bearded Pan recalls the satyr dancing the *sikinnis* on the Argos vase (Lullies pl. 13), his outstretched hand that of Oreithyia (pl. 102, fig. 4) and the thick black flecks on his shaggy leg those on the skins worn by the maenads on the Argos painter's Kabeiric skyphos (Wolters-Bruns *op.cit.* pl. 25). The faces, heads and garlands would sometimes do very well for the Argos painter, and the tall rocks on which his youthful Pan and Eros sit are not very far from those on that painter's skyphoi in Bologna and Berlin and the Athens kantharos 1420. But the differences are equally striking. The tall rock or hillock is exceptional. On most of the scenes by the painter of the Dancing Pan there is a rocky platform or eminence of some sort, but it is generally low and broad. This uneven ground is appropriate enough for his Apollo or the cocks and Erotes, who may be thought of as in the open air, but less so for the women by the wool basket (pl. 107, fig. 30). The Pyrrhic dancer and the other dancing girl, who is putting the finishing touches to her hair before the show, are also standing on slightly elevated rocky ground on each side of the basin (pl. 106, fig. 26). There is nothing approaching these rocky platforms in the Argos painter's work, unless it is the rough ground (or is it sea?) over which Boreas flies, or the broad uneven ground-line of the Aphrodite skyphos (pl. 102, fig. 3, pl. 103, figs. 7, 8). Again, while the Argos painter's figures are harsh and angular, those of the painter of the Dancing Pan are soft and drooping. The wings of his Erotes are almost excessively downy with an abundance of soft touches of golden glaze. The

musicians play with a loose wrist, the head of Apollo bends lovingly over the lyre. The hands are generally elegantly drawn, often with the first finger separated from the rest. His standing figures have their feet close together, one resting flat on the ground, the other, whether advanced or drawn back, resting lightly on the toe, while the Argos painter's people plant both their large, somewhat triangular feet firmly down. In his more careless moments the toes become sharp and claw-like, as in the case of the Yale Eros and, worse, the seated lady on the Athens calyx krater. He has many careless moments. We have seen that he scallops round his palmettes more carefully than the Argos painter. Nevertheless he sometimes sinks lower than his companion, or rival, ever did. The disagreeable effect produced by his negligence in painting round the legs of the kneeling Eros on the Athens calyx krater is surpassed by the horrible state in which he has left the foot of the girl with the Yale Eros. Further, the woman offering the hare on the other side of the same krater has had her left hand completely painted out, while the figure at the other end of the same scene is so awkwardly placed behind the handle that she has been accorded only the most summary treatment. Her right arm is omitted and below the knee the outline of the figure becomes impossibly attenuated.

The skyphos shown on plate 105, fig. 21, I know only from the photograph in the possession of Sir John Beazley, taken many years ago when the vase was on the market. The face of Apollo with its small mouth and long chin looks at first much like that of the Apollo on the Argos painter's krater in Rochdale (AJA 55 [1951] pl. 33 B) or that on his Athens skyphos 12589 (Lullies pl. 15.1). Nevertheless the treatment of the head generally is nearer to that of the Yale Eros, and, judging from what can be seen on the photograph, which is reproduced here, the vase must be assigned not to the Argos painter but to the painter of the Dancing Pan. The stance is his, and so are the shapely little feet, markedly different from the large flat feet of the Rochdale vase with their swollen toes. So is the miniature platform on which Apollo stands. Every fold of the chiton and himation finds a counterpart on the calyx krater in Athens and the Yale vase, but none on the garments drawn by the Argos painter. It is to be hoped that the skyphos may be traced and the figure on the other side published.

The subjects treated by this painter are of a dif-

ferent character from those of the Argos painter, as far as one can judge from the five specimens of his work extant. The emphasis is on femininity. There are no solemn libations, but music and dancing; no warriors, but Erotes and women idling. Even the girl who is dressed ready to dance the Pyrrhic is less robust than her counterpart on the lekythos from the Thespian polyandron (Lullies pl 5.2), and her helmet is the lightest imaginable.²³

The painter of the Dancing Pan was plainly a contemporary of the Argos painter. The dates given to the latter are various. Neugebauer put the Berlin skyphos about 450 (*Führer* II 137). Bruns dates the Kabeiric skyphos 440-430 (*Kabirenheiligtum* 88). Lullies, arguing from the date of the Attic painters who appear to have influenced his style, makes his career start about 420, if not later (*op.cit.* 17). The Nauplia kantharos and the Aphrodite skyphos, neither of which he regards as coming from the

Argos painter's hand, Lullies dates respectively about 430 and in the last years of the fifth century (*op.cit.* 20, 24). There is nothing surprising in these discrepancies. It is quite likely that the active life of a painter in antiquity, as at the present day, often lasted forty years or more. One could cite in the present century cases of artistic activity continuing for more than sixty years. The comparatively large number of the Argos painter's vases that has survived points to a comparatively long working life, and Charlton is certainly underestimating in giving him only ten years (*AJA* 55 [1951] 337). It would be preferable to err in the other direction and to give him an active life of at least the thirty years between 440 and 410, with a possible extension of some years at each end.

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²³ Cf. the light shield provided for the girl who dances the Pyrrhic, Xenophon *Anab.* 6.1.12.

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An Unpublished Egyptian Composite Bow in the Brooklyn Museum¹

WALLACE E. McLEOD

PLATES 108-109

HISTORY OF THE TYPE

Throughout the Old and Middle Kingdoms, the type of bow regular in Egypt was the usual African *arcus*, the simple stave of wood²—sometimes with a single curve, sometimes with a double curve (pl. 108, fig. 1).³ But from the Eighteenth Dynasty on, composite (i.e. laminated non-homogeneous) bows occur.⁴ It seems agreed that the composite bow was introduced from Asia together with the horse-and-

chariot, the use of bronze, helmets, and body-armour, etc. by the Hyksos.⁵ Where the Hyksos obtained it is unknown. Perhaps they got it from the first wave of Indo-Europeans erupting from the steppes;⁶ or perhaps it had been in Mesopotamia already for a millennium, having been invented by the Sumerians⁷ or introduced by the Semites.⁸

Whatever its ultimate source, this new bow has been equated by many with the "angular" bow⁹

NOTE: This paper owes much to the helpful criticism of Mr. John D. Cooney of the Brooklyn Museum, Professor Sterling Dow of Harvard University, and Professor W. E. Staples of the University of Toronto. I also wish to thank the Technician of the Brooklyn Museum, Mr. Antony Giambalvo, who patiently explained what I was seeing through the microscope. Miss Evelyn Williams of the Metropolitan Museum of Art unsparingly aided and guided my research in New York; Mr. William Stephenson Smith of the Museum of Fine Arts offered encouraging assistance in Boston.

¹ The literature on this type of bow is not extensive: H. Balfour, "On a Remarkable Ancient Bow and Arrows Believed to be of Assyrian Origin," *JRAL* 26 (1896/97) 210-220; Frank Edward Brown, "A Recently Discovered Compound Bow," *SemKond* 9 (1937) 1-10; G. Brunton, "Syrian Connections of a Composite Bow," *ASAE* 38 (1938) 251-252; C. J. Longman, "The Bows of the Ancient Assyrians and Egyptians," *JRAL* 24 (1894/95) 49-57; F. v. Luschan, "Ein zusammengesetzter Bogen aus der Zeit Rhamesses II," *Verh. Berl. Anthropol. Gesellsch.* (1893) 266-271; H. Mebert, "Der Assyrische Angularbogen als Kriegs- und Jagdwaffe," *Ztschr. f. hist. Waff. u. Kostüm.* 15 (1937/39) 96-100; Eugene Robinson, "The Egyptian Composite Bow," *Archery* (National Field Archery Assoc.) (1951, Apr.) 4-5; G. A. Wainwright, "Ancient Survivals in Modern Africa," *Bull. soc. sultanieh de géographie*, 9 (1919) 109-115, 193-197.

² The wooden bow is very frequent in Egyptian remains; v. Luschan had studied some 80 specimens, see *Verh. Berl. Anthropol. Gesellsch.* (1899) 227-228. To the examples usually cited, add: Boston MFA Access. No. 13.3569 (Middle Kingdom); New York, MMA Access. No. 86.1.36-37, 14.1.406, 27.3.13, 12.181.223-225, 12.182.51, 17.2.8, 19.3.34-36, 129.200, 26.3.293 (all Middle Kingdom), 36.3.211-212 (New Empire); Toronto, ROM Access. No. B.2472, B.2473, B.2475 (Middle Kingdom).

³ The wooden bows reproduced in the accompanying plate are in the Metropolitan Museum of Art, New York. Plate 108, fig. 1a (the single curved bow) is Access. No. 14.1.406 (from Thebes, Sheikh Abd el-Kurna, Dynasty XI); Plate 108, fig. 1b (double curved bow) is Access. No. 36.3.212 (Thebes, Abd el-Kurna, Dynasty XVIII). The latter has been partly restored by Museum technicians.

⁴ Wainwright, *op.cit.* 111; Wreszinski, *Atlas zur altaegyptische*

Kulturgeschichte, 1 (1923) Taf. 80; H. Bonnet, *Die Waffen der Völker des alten Orients* (Leipzig 1926) p. 136. Actually, our oldest example (MMA No. 28.9.9) comes from the site of a 17th Dynasty Tomb; it may not be as old as the tomb, but it certainly antedates the causeway of Hat-shepsut built over it.

⁵ First suggested by Wainwright, *op.cit.* 197, who thought that the ease with which the Hyksos are said to have conquered Egypt was due to the superiority of their composite bows to the less powerful Egyptian self-bows. cf. also Albright-Mendenhall, *JNES* 1 (1942) 229; H. E. Winlock, *The Rise and Fall of the Middle Kingdom in Thebes* (N.Y. 1947) 158; T. Säve-Söderbergh (in a very conservative article) *JEA* 37 (1951) 61; A. J. Toynbee, *A Study of History* 10 (1954) 202.

⁶ *obiter dixit* Toynbee, *loc.cit.*

⁷ Desiderated by v. Luschan, *Verh. Berl. Anthropol. Gesellsch.* (1899) 231-232.

⁸ Ed. Meyer, "Sumerier und Semiten in Babylonien," *Abh. Berl. (Phil. Hist.)* (1906) Abh. 3, pp. 88, 113; following him, L. W. King, *A History of Sumer and Akkad* (N.Y. 1910?), 286; B. Hrozný, *Ancient History of Western Asia, India, and Crete* (N.Y. 1953) 95. Denied (with cogent arguments) by C. L. Woolley, *The Sumerians* (Oxford 1928) 54. Composite bows are not specifically mentioned in these works; but since the evidence cited includes the victory-stele of Naram-Sin, the stele of Hurlin-Sheikh-Khan, and copper bow-tips from pre-dynastic Ur—all of which are thought to refer to composite bows—the references seem relevant.

⁹ Suggested by Longman, Wainwright, Brown, *op.cit.*; opposed by Balfour, *op.cit.* The suggestion is tacitly ignored by A. Schaumberg, *Bogen und Bogenschütze bei den Griechen* (Nürnberg 1910); E. Bulanda, *Bogen und Pfeil bei den Völkern des Altertums* (Abh. arch. epigr. Sem. Wien, 15.2 [1913]); H. Bonnet, *Die Waffen der Völker des alten Orients* (Leipzig 1926); W. Wolf, *Die Bewaffnung des altägyptischen Heeres* (Leipzig 1926), although they all treat both of the remains of composite bows and of pictures of angular bows.

Ludwig Keimer offers an explanation for at least some of the angular bows, *ZaES* 72 (1936) 121-128, viz. that they are formed by joining with a wooden plug two of the perfectly straight horns of the *Oryx-beisa*. (I am indebted to Mr. Bernard v. Bothmer of the Brooklyn Museum for directing me to this reference).

which makes its appearance almost simultaneously in Egyptian painting.¹⁰ Since discussion has not resulted in agreement, the arguments upon which the equation is based merit a full statement. They are two in number:

(1) Chronological: the angular bow appears in art approximately at the same time as the earliest extant archaeological remains of composite bows.

(2) Morphological: the bows as we have them (i.e. unstrung and reflexed) all have an inward angular bend at the grip. When the arms were bent back and braced, the angle would of necessity be retained, but now the apex of the angle would be *away* from the string—as in the paintings. Moreover, in several paintings there are pictures of bow factories; the unbraced bows hanging on the walls (pl. 108, fig. 2) are similar in shape to the extant composite bows.¹¹

These arguments tend to show that there was some basis for the equation.

If so, this type of composite bow was the dominant arm throughout the Middle East for the millennium which began about 1500 and ended about 500 B.C. For the angular bow appears frequently in Hittite Art (both of the Great Empire in the 14th/13th century¹² and of the city states down to the 8th century)¹³ as well as in Assyrian reliefs from the 9th century on.¹⁴

The peculiar angular appearance when braced but not drawn is due to the construction: "The stiffened grip, shaped to the sweep of the strung

and drawn bow, had a convex curve. When the bow was strung, the arms, which had no rigid ears, fell back almost straight. . . ."¹⁵ It has been established from the paintings and reliefs both of Egypt and of Assyria that this bow when drawn lost its angular appearance, and became round, with a semicircular curve extending right through the grip¹⁶ (pl. 108, fig. 3).

Some time between 1000 and 500 B.C., the nomads of southern Siberia developed a new type of composite bow, in which the ears and grip of the bow were stiffened by applying strips of unyielding bone.¹⁷ As far as can be ascertained from practising toxophilites, these features would improve the bow and make it more efficient.¹⁸ The Iranians, it is believed, brought a variety of this new bow south with them from the Oxus regions;¹⁹ it was the regular bow of the Medians and of the Achaemenid Empire.²⁰ Precisely by means of superior bowery, one may imagine, the "bear" of *Daniel* 7:5 was able to devour the "three ribs" of Lydia (547), Babylonia (538), and Egypt (525) with facility.²¹ The subject states were quick to learn; they adopted the Persian bow. The angular bow vanished from Mesopotamia and Egypt with the Persian conquest.²²

PROVENIENCE OF THIS SPECIMEN

Of the thirty-odd Egyptian composite bows extant, only two have been at all adequately published.²³ The first Egyptian composite bow ever to

tells us, "is intended to facilitate the reversing in stringing the bow." Perhaps more impressive are the graphs and explanations on pp. 145-147 of Klopsteg's *Turkish Archery and the Composite Bow* (2nd ed., Evanston 1947) which show the effects of having rigid ears in a reflexed bow; such a bow stores more energy and is easier to hold at full draw than a bow which is more or less homogeneous throughout its length, i.e., a bow with no stiffening.

¹⁰ Brown, *op.cit.* 7; and following him, M. Emeneau, *Proc. PhilSoc* 97 (1953) 84.

¹¹ See refs. Brown, *op.cit.*, pp. 6-7. The Yrzi bow, discovered by the Yale Dura Expedition at Baghouz and described by Brown, is of this type. It does indeed have bone-stiffened ears; but the grip is stiffened *not* with bone-strips but by reinforcing with hard-wood.

¹² One traditional interpretation of the prophecy.

¹³ Brown, *op.cit.* 7; Mebert, *op.cit.* 100.

¹⁴ Actually, twenty-eight such bows are known to me at present, viz.: (1) Berlin, Staatliche Museen, Ägyptische Abteilung, No. 4712; described by v. Luschán and Longman, *op.cit.* (This bow is no longer in Berlin. Franz Poellnitz of the Museum informs me *per lit.*, August 24, 1957, that during the Second World War the bow was moved for safekeeping to the *Kunstgallager* of the Castle at Celle, West Germany, where it is still in storage.) (2) Oxford, Pitt-Rivers Museum, labelled "d. d.

¹⁰ Wainwright, *op.cit.* 114, n. 1, lists monuments of Amenhotep II, Amenhotep III, Seti I, Rameses II, Rameses III, all with angular bows. To these could be added e.g., Thothmes IV, *ILN* (Feb. 10, 1923) 195.

¹¹ Wreszinski, *op.cit.* (note 4) Taf. 152; cf. also *ibid.* Taf. 80-81; Moret, *RA* ser. 3, 34 (1899) 237.

¹² Garstang, *The Land of the Hittites*, p. 119 (stone from Marash); pl. 54 (Karabel); M. Riemschneider, *Die Welt der Hethiter* (Stuttgart 1954) Taf. 6 (Hemite), Taf. 7 (Gezbeli), Taf. 49 (Malatia).

¹³ v. Luschán, *Mitt. Orient. Samml. Kgl. Mus. Berl.* 14 (1911) Taf. 61 (Sinjirli); M. Vieyra, *Hittite Art* (London 1955), fig. 97 (Tell-Halaf); C. W. Ceram, *The Secret of the Hittites* (N.Y. 1956) p. 1 & pl. xl (Karatepe).

¹⁴ Mebert, *op.cit.* 96, n. 1, lists 9 representative reliefs and objects dating from ca. 900 down to the reign of Ashurbanipal.

¹⁵ Brown, *op.cit.* 4.

¹⁶ Bonnet, *op.cit.* (note 8) 141.

¹⁷ See Gy. László, *Acta Archaeologica Academiae Scientiarum Hungaricae*, 1 (1951) 99, n. 54, who cites as his authority A. P. Okladnikov, *KS* 8 (1940) 106-112.

¹⁸ A stiffened grip, we are told, is desirable because "a bow which 'bends in the hand' is uncomfortable and jolty to shoot with and casts badly" (Longman, in [Badminton] *Archery* [London 1894], p. 60). The stiffened ear, the same authority

be discovered, oddly, has never been described in full. It sheds some light on the development of the species.

This bow is now in the Brooklyn Museum (Access. No. 37.1835E)—though it is not on display. The history of its finding is irretrievably lost. It was found by Henry Abbott, M.D., an English physician resident in Cairo, some time between 1832 and 1843;²⁴ the place of its finding is reported as Sak-kara.²⁵ Scientific archaeology was still in the future: the collector did not keep a field-book recording the exact date and place of his finds. Abbott himself tells us²⁶ that he was often present at the opening of tombs and obtained much of his collection by this means.

The bow was brought to America as part of the Abbott Collection in 1852; the Collection was acquired by the New York Historical Society in 1860²⁷ (the bow being catalogued as Abbott Coll. No. 421.1A), and was purchased for the Brooklyn Museum in 1948,²⁸ having been on loan there since 1937.

The bow was found with a leather quiver.²⁹ By 1915 the quiver had managed to pick up four arrows which did not originally belong to it.³⁰

DESCRIPTION (pl. 109, figs. 4, 5, 6)

The bow measures 1.372 m. from tip to tip in a straight line, 1.452 m. following the curve of the belly. These measurements are very close to those of Balfour's bow in Oxford, for which the corresponding measurements are 1.35 m. and 1.45 m. This is considerably longer than either the Berlin bow (49" tip to tip as restored) or the Tutankhamun bows (44" to 49").

H. Balfour, Jan. 1896"; described by Balfour, *op.cit.* (3) Cairo Museum, at least 20 specimens: J. d'E. no. 31389 (*vid.* Brunton, *op.cit.*); *Cat. gén.* vol. 3, no. 24120; old number 4725 (mentioned by Wreszinski, *op.cit.*, Taf. 80, n. 4); and 17 bows from the tomb of Tutankhamun, a few pictured and described in Carter-Mace, *The Tomb &c.* 1 (1923) plates LXXVI—LXXVII; 3 (1933) 138ff; also *ILN* (Oct. 20, 1928) 712-715; (Oct. 12, 1929) 626. (4) New York, Metropolitan Museum of Art, Access. No. 25.3.303 (fragments of two or probably three bows); 25.3.304; 28.9.9. (5) The bow hereinafter described.

²⁴ These dates are arrived at indirectly. The *terminus a quo* is given by the fact that Abbott "always spoke of his collection as the result of twenty years' residence there (*sc.* Cairo) and he left Egypt with it, bound for New York, in 1852" (Caroline Ransom Williams, *N.Y. Hist. Soc. Quart. Bull.* 4 [1920/21] 8-9). The *terminus ante quem* comes from the colophon ("Cairo, 1843, Joseph Bonomi") of the first Catalogue of the Collection (publ. Cairo, 1846).

²⁵ So both the Bonomi Catalogue (1846) p. 6, and the New York Historical Society Catalogue (1915) p. 27. This location does not shed much light on the date of the bow, since remains

Much of the bark covering and nearly all the sinew backing has disappeared; and in one arm the horn has sprung away from the wood. Consequently it is possible to obtain a more accurate picture of the construction than would be possible if the bow were in perfect condition.

The central core is a piece of reddish-brown wood³¹ extending unbroken throughout the length. It is shaped to the bow, i.e. it has the angular inward bend at the grip; about 0.02 m. from either end there is an abrupt reflex bend; presumably this served to hold the string from slipping. At the apex of the grip, this core measures .021 m. broad x .009 m. thick; it tapers very little throughout most of the bow. 0.4 m. from the grip it is still .018 m. x .009 m. From there it tapers more quickly; by 0.6 m. from the grip it is .010 m. x .005 m.; and beyond the bend at the tip, it measures only .008 m. x .003 m.

Along the *back* of this central core (i.e., the convex side at the grip; the side *away* from the archer when he shoots) is a second piece of wood, also reddish-brown—presumably serving as reinforcement at the grip; it extends .161 m. along one arm, .185 m. along the other; it is .021 m. broad throughout, and tapers in thickness from .004 m. at the grip to nothing at either end.

Along each side of the bow runs a bevelled wooden side-strip, of reddish-brown wood,³² .003 m. thick, and in general about .003 m. greater in width than the thickness of the core or core-plus-reinforcement. This overlap means that there is a shallow channel running the length of the bow on both the back and the belly. On one side (arbitrarily called the "left") this strip runs unbroken the length of

from Sakkara cover the period from pre-Dynastic to Roman.

²⁶ Quoted in the introduction to the 1915 Catalogue.

²⁷ C. R. Williams, *op.cit.* (note 24) pp. 8-14.

²⁸ J. D. Cooney, *Bull. Brooklyn Mus.* 10, 3 (Spring 1949) 17-23.

²⁹ Bonomi Catalogue, p. 6; 1915 Catalogue, p. 27; in both cases described as "A bow of curious structure, with the leather case that contained it and attached it to the War Chariot." However the leather container is patently a quiver rather than a bow-case; it was so described by Caroline Ransom Williams in (unpublished) notes in the Brooklyn Museum.

³⁰ 1915 Catalogue, *loc.cit.*, compared with the Bonomi Catalogue, p. 15, #92 (apparently the same arrows), "From Thebes." The discrepancy was pointed out by C. R. Williams in her (unpublished) notes.

³¹ Specific identification of ancient woods is possible only after microscopic examination by a botanist; such was not feasible at this time.

³² Brown, *op.cit.*, p. 6, f.g. 2.1, gives diagrams which are intended to represent sections of this bow; he unaccountably calls these side-strips "horn."

the bow. The other side ("right") was broken in two places in antiquity; the joints are filled with ancient pitch.

Along the channel formed by the side-strips on the belly side runs a layer of yellowish horn about .003 m. thick on an average; its outer face has been planed down, still exhibiting the parallel striations as from a file. The horn is not one continuous piece, but has ancient (pitch-filled) splices at two points. The longest piece, the one covering the grip, is some 0.7 m. long; it is .021 m. broad throughout, fitting the channel in which it is placed. The horn strips on either end are respectively 0.31 m. and 0.26 m. in length, and taper in breadth to fit their channels. The horn fails at 0.08 m. and 0.125 m. from the respective tips; the break appears modern.

Along the back in the channel formed by the side-strips there presumably ran a strip of another material; of this, only 0.09 m. remain, on one arm right at the grip. The substance is so covered with ancient pitch that its appearance is virtually hidden. The edge which is exposed at one end seems to have a wood-type grain.³³ This strip is 0.021 m. broad by .003 m. deep.

Above this last strip are traces of fiber (presumably animal sinew) imbedded in the thick covering of pitch. And at the grip on one side, back, and belly are traces of coarser fibers—apparently animal tendon binding the grip. The whole bow retains ample remains of a bark covering, reddish in colour, identified as cherry bark.³⁴ Microscopic examination of the grip showed that outside the horn there were successive layers of pitch, bark, tendon, bark, tendon, totalling under a millimeter in depth.

Microscopic study also revealed that the whole bow was dotted with minute flecks of gold; these were thickest on the places where the ancient bark was preserved. Though there are also traces of gold on the naked horn and wood, it can be argued that they were spread thither from the bark by modern handling. It is not impossible, therefore, that the bow was originally covered with gold leaf or a gold

wash.³⁵ At any rate, some of the Tutankhamun bows were gilded.

SUMMARY AND CONCLUSIONS

The shape of the Brooklyn bow is typical of Egyptian composite bows (cf. pl. 108, fig. 7a, b).³⁶

It has been thought that bows of this type—i.e., angular bows—are invariably of Asiatic provenience. Von Luschan believed that the Berlin bow (Theban, 19th Dynasty) was either the property of a Hittite war-captive from Rameses II's great campaigns or the property of an Asiatic mercenary of Egypt. Balfour suggested that his bow (Theban, 26th Dynasty) was a trophy from the Assyrian invasion. Brunton pointed out³⁷ that one of the Cairo bows (Qurna, earlier 18th Dynasty) had been buried with one Se-aa, a name which seems to be Syrian. And other bows have been found to contain white birch (bark or wood)³⁸ and ash,³⁹ neither of which grow as far south as Egypt. Our bow sheds no light on this problem.

It is a well known fact that a composite bow is valuable, not on account of its materials, but because of the amount of time required in its manufacture (from five to ten years). Perhaps this explains why composite bows are so much rarer in Egyptian remains than wooden bows.

Of the two other composite bows hitherto published (pl. 108, fig. 8), the Oxford bow bears a greater resemblance than does the Berlin bow to the Brooklyn one, both in general dimensions and in construction. The chief similarity is the placing of a strip of wood on either side of the central core. If the pitch-covered strip along the belly of Brooklyn No. 37.1835E should indeed turn out to be horn instead of wood, the similarity would be greater. However, our knowledge of this type is still too meager to justify dating the Brooklyn bow on the basis of its closer resemblance to the 26th Dynasty example than to the 19th Dynasty one.⁴⁰ Investigation of further specimens may clarify the situation.

Since examples of the early types of composite bow are so rare, each specimen described contrib-

³³ Both Brown, *loc.cit.*, and Caroline Ransom Williams (in unpublished notes in the Brooklyn Museum) took this back-strip to be horn.

³⁴ 1915 Catalogue, p. 427, #421.

³⁵ It is a less likely (as well as less interesting) possibility that the bow picked up the gold flecks during a sojourn at some (modern?) time in the establishment of a gold-leafer.

³⁶ One example on display in the Metropolitan Museum of Art (Access. No. 28.9.9) has been *incorrectly* restored with a stiff straight grip between the two curving reflexed arms.

³⁷ *op.cit.*

³⁸ See note of Dr. Elmer Drew Merrill, of the Bronx Botanical Gardens, concerning MMA No. 25.3.303-304, 28.9.9, on file in the MMA.

³⁹ A. Lucas, *Ancient Egyptian Materials and Industries* (3rd ed., London 1948) 490.

⁴⁰ Brown, *op.cit.* p. 4, n. 7, dates the Brooklyn bow to the Assyrian or Saite Period; but on what grounds I have been unable to ascertain.

utes *something* to the developmental history of the genus. The Brooklyn bow may therefore prove of interest to Classicists as well as to Orientalists. For while the indigenous Cretan bow was wooden,⁴¹ individual weapons of legend are composite. Thus, on Greek coins and vases Herakles is regularly equipped with a bow of the "Scythian" (composite) shape.⁴² The great bow of Odysseus as well

is admittedly composite;⁴³ it was probably of this same *angular* shape, inasmuch as the legend seems to antedate the advent of either the "Persian" or "Scythian" types.⁴⁴ At any rate, ἀγκύλα and καμπύλα, applied to τόξα, could as readily mean "angular" as "curving."

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⁴¹ C. J. Longman, (Badminton) *Archery* (London 1894) 80-81; A. J. Reinach, *DarSag, s.v.* "Sagittarii," 4 (1909) 1005; E. J. Forsdyke, *Proc. Soc. Antiq.* 32 (1919/20) 156.

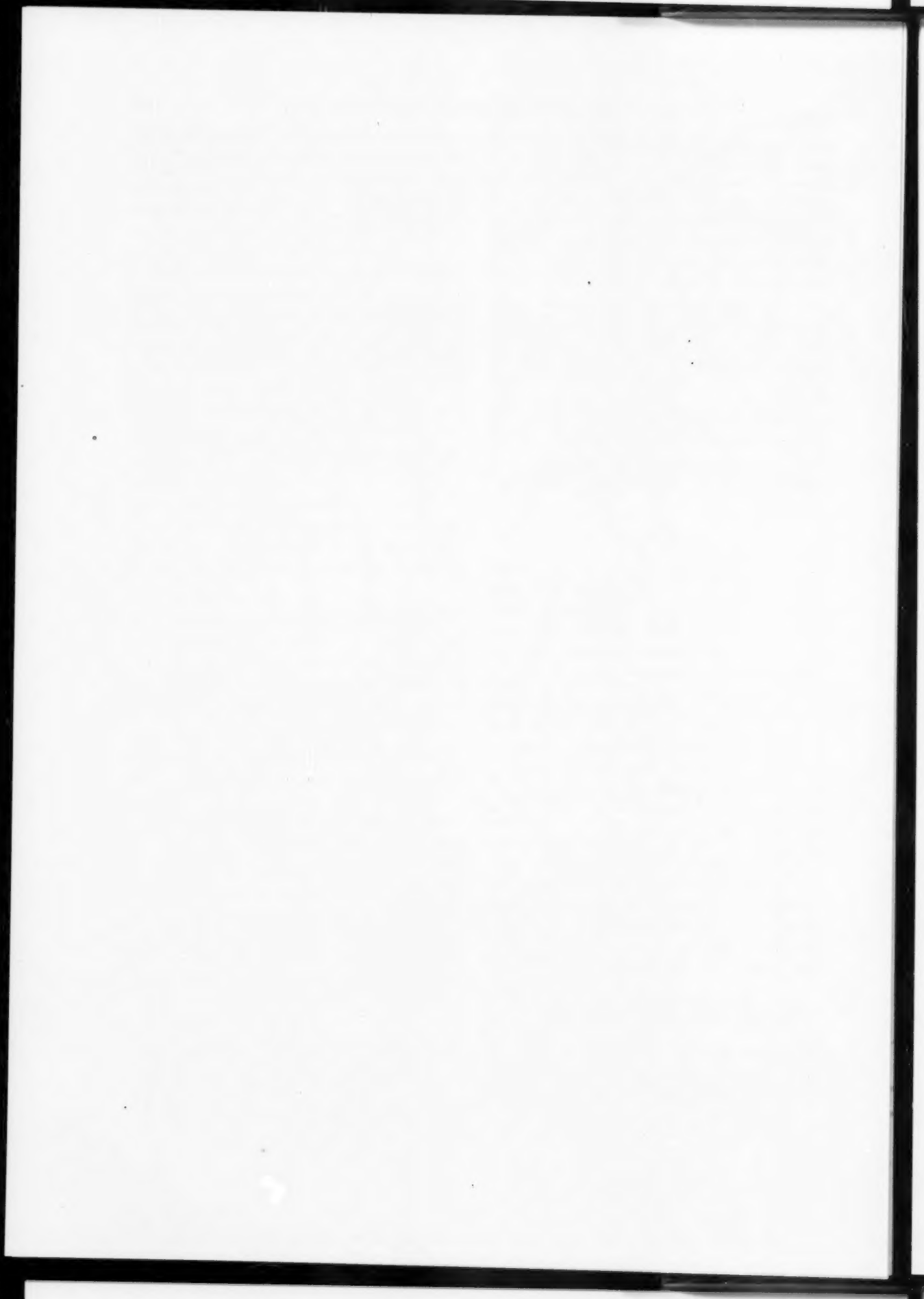
Miss Lorimer's vigorous assertion (*Homer and the Monuments* [London 1950] 282) that the Cretans used the composite bow seems to be based on a misreading of τόξοις for τοξεύμασι in *Xen. An.* 3.4.17.

⁴² First pointed out in regard to Cretan coins by Sir Arthur Evans (Longman, *loc.cit.*); extended to all Greek coins by E. S. G. Robinson and to vase-painting by Sir John Beazley (Forsdyke, *op.cit.*).

⁴³ Suggested by Henry Balfour, *JRAI* 19 (1889/90) 226-227; amplified *JRAI* 51 (1921) 290-291, 301-304. The judgment de-

pends upon the following considerations: the bow of Odysseus contained horn (*Od.* 21.395), was reflexed (21.11,59), was liable to be devoured by grubs (21.395), was kept in a bow-case (21.54), was warmed and greased to soften it (21.176-185), required an effort and knack in stringing, and was left at home during the war (probably because it was affected by damp).

⁴⁴ The legend of Odysseus' angular bow could be (*pace* Gabriel Germain) of Hittite origin—just as are, e.g., many of the more bloodthirsty Greek myths (R. D. Barnett, *JHS* 65 [1945] 100-101 *et alii saepe*), the genre of ship-catalogues (Viktor Burr, *Klio Beih.* 49 [1944]), and one aspect of Apollo (B. Hrozný, *AO* 8 [1936]) 192-197).



The Date of the Eleusis Relief¹

R. ROSS HOLLOWAY

PLATES 110-111

In 1859 the well-known relief from Eleusis (pl. 110, fig. 1) was discovered in the ruins of a Byzantine church on the edge of the ancient sanctuary. It is now in the National Museum in Athens,² and it shows two female figures, facing toward the center, the one on the right holding a torch, the one to the left a sceptre, with a boy, looking to the left, standing between them. Although the iconography of the relief is uncertain, the two women are generally agreed to represent Demeter, to the left, and Persephone, to the right, the boy, Triptolemos. The universal reticence of ancient authors regarding the Precinct of the Mysteries prevents our connecting the relief with any dated building.³ Moreover, since its discovery was accompanied by no other remains of the Classical Period and there is no epigraphical evidence, its date must be determined on stylistic grounds alone. At first glance, however, the style of the relief is confusing because it is a blend of mannerisms associated with the Strong Style of the Transitional Period and others typical of the third quarter of the fifth century. The prominence of several elements which seem reminiscent of the earlier period has prompted some scholars to propose a date toward the middle of the fifth century.⁴ These elements are: the severe, plain hair of the Demeter and the Triptolemos; the straight, thick folds extending from the waist to the foot of the Demeter's *peplos*; and the incomplete foreshortening of the Triptolemos' left arm. Other archaeologists, influenced by the appearance of recognized mannerisms of a later date, such as the light *chiton* which shows below the *himation* of the Persephone, have labeled it "Phidian."⁵ In the latest edition of *The Sculpture and Sculptors of*

the Greeks Miss Richter has tended to adopt the latter view and has reduced the date proposed in the first edition by ten years, from 450-440 to 440-430.⁶

The purpose of the present paper is to elucidate the grounds for the later date. Its object is first to establish that the appearance of mannerisms from the Transitional Style does not necessitate the attribution of the relief to that period; next, to support a date in the decade 440-430 by specific stylistic comparison of the Eleusis Relief with the Parthenon Frieze, which is known to date from the years 442-438.⁷ Before turning to the sculpture of the Parthenon, however, we must show that the "archaic" elements found on the relief were active in the technical vocabulary of the Greek artist even into the fourth century.

THE HAIR OF THE DEMETER AND THE TRIPTOLEMOS

The parallel rows of wavy locks in which the hair of the Demeter is worked remind one immediately of the Sterope from the East Pediment of the Temple of Zeus at Olympia. Almost alone among representations of women in the fifth century these two figures wear no *stephane*, *sphendone*, *saccos*, or ornament in their hair. The hair of the Sterope, however, hangs in large ringlets across her forehead as well as down her cheeks, while the Demeter's is brought across her forehead in wavy strands. Sterope's hair is combed forward from the crown, Demeter's runs back as if from a part in the center of her forehead. Thus the parallel with the Sterope is superficial and exists only in the regularity of the Demeter's waving hair. The real similarity lies with the figure of Persephone on the

¹ This paper was written while I was studying under Professor Charles H. Morgan at Amherst College. I wish to thank him for suggesting this problem to me and for his helpful discussion of the manuscript. The term "Pie-Crust" edge is his especially apt contribution to technical terminology.

² Athens, National Museum, No. 126. For full discussion and bibliography cf. J. N. Svoronos, *Das athenere Nationalmuseum* (Athens 1908-1912) 106-120, pl. xxiv, xxv.

³ E.g. Pausanias 1.38.6.

⁴ E.g. E. A. Gardner, *A Handbook of Greek Sculpture* (London 1929) 336; C. Wulston, *Alkamenes* (Cambridge 1926) 45.

⁵ Svoronos, *op.cit.* 107; G. Rodenwaldt, *Das Relief bei der Griechen* (Berlin 1923) 53.

⁶ G. M. A. Richter, *The Sculpture and Sculptors of the Greeks* (New Haven 1929) 32, gives the date ca. 450; in the same work (1950) 42, the date has been lowered to 440-430. The same suggestion was made earlier by R. Carpenter, who had noted that the Eleusis Relief, "because of the drapery forms, must be at least as late as the 30's," *Memoirs of the American Academy in Rome* 18 (1941) 22.

⁷ Richter, *op.cit.* (1950) 41.

same relief. One should note how the hair of the Persephone undulates across her forehead in the same way as the elder goddess'. Again, the treatment of the hair in shallow grooves toward the crown is identical in both instances. The rest of Persephone's hair is confined in an elaborate *coiffure* which is not out of keeping with the Parthenon Frieze. The seated Artemis on the East Frieze (pl. III, fig. 9) wears her hair drawn across her forehead just as the Demeter and the Persephone of the Eleusis Relief; she also has a knot at the back of her head like our Persephone, the only difference being that she wears a *saccos*, or hair net. However, the *saccos* and *stephane* were both fashionable in the fifth century, as we learn from the various heads of Arethusa appearing on the coins of Syracuse during these years.⁸ What has happened in the case of the Demeter on our relief is that with the removal of a *stephane* such as keeps the Persephone's hair in place her hair has been released from the pressure which pulled part of it down toward her forehead and has been loosed from an elaborate knot behind her head. The result is that her hair has fallen naturally over her ears and down toward her shoulders, as we see it represented. Remove the *stephane* from the Persephone and one has the Demeter.

It seems that Svoronos⁹ is inaccurate in saying that the Demeter's hair has been cut in mourning, for it ends in perfectly natural curls, which, moreover, are far simpler than the artificial locks of the Transitional Period, such as those of the Sterope from the East Pediment at Olympia, which we have just discussed. Rather the relief follows the tradition of the *mater dolorosa* we find already established in the Homeric *Hymn to Demeter*. Her first act of mourning, we read, was to rend the headdress which bound her ambrosian locks. There is no mention of her shearing her hair.

ὄξυ δὲ μιν κραδίην ἄχος ἔλλαβεν, ἀμφὶ δὲ χαίταις
ἀμβροσίαις κρήδεμνα δαίζετο χερσὶ φίλῃσι,
κνάνεον δὲ κάλυμμα κατ' ἀμφοτέρων βάλετ' ὤμων.
σεύατο δ' ὥς τ' οἰωνὸς ἐπὶ τραφερὴν τε καὶ ὑγρὴν
μαιομένη.

Hymn to Demeter, 40-44.

⁸ Cf. A. B. Brett, *Museum of Fine Arts Catalogue of Greek Coins* (Boston 1955) pl. 18-22 for a particularly fine series of Syracusan coins.

⁹ "Ihr Haupt . . . schmückt kurzes Haar, nach Trauersitte abgeschnitten und in einfachster Weise angeordnet, indem es in der Mitte geteilt ist und in aufgelösten, wellenförmigen Locken auf den Hals niederfällt." Svoronos, *op.cit.* 109.

Moreover, when she appears later at Eleusis to Metaneira in her divine splendor, she is still in mourning, for her hair falls down toward her shoulder (l.278). Thus the hair of the Demeter on the Eleusis Relief is not an archaic survival but the reproduction of a traditional conception of the mourning goddess.

When we turn to the Triptolemos figure, we do find hair cut off in mourning. There is a close parallel between the boy on the Eleusis Relief and the grave stele of an athlete which was found at Sounion.¹⁰ In both cases the hair does not end in the curls of the statues of Ripe Archaic or Transitional Periods, such as the Blond Boy from the Athenian Acropolis or the Apollo from the West Pediment of the Temple of Zeus at Olympia, but hangs in loose ends as if it had been cut. Again we are dealing with a convention of mourning, and this does not necessitate an early date for the relief.

THE SHOULDER AND ARM OF THE TRIPTOLEMOS

The incomplete foreshortening of the left arm of the Triptolemos figure seems reminiscent of the sixth century. But if this is an archaic survival it is especially difficult to understand in view of the skillfully foreshortened arm and shoulder of the Demeter. The same treatment is seen in the Sounion stele we have just mentioned. Yet this mannerism is not a hallmark of Transitional relief. On the metope showing Athene, Atlas, and Herakles from the Temple of Zeus at Olympia, for example, the figure of Atlas is correctly foreshortened, although represented in absolute profile. One must go back to the sixth century to find consistent lack of foreshortening. Moreover, the treatment seen in the Triptolemos persists to the closing years of the fifth century. The double relief in the National Museum in Athens, which displays a chariot scene on one face, a processional group on the other, and which is dated by Svoronos,¹¹ partly on epigraphical grounds, to the year 403, exhibits incomplete foreshortening clearly in the figure second from the left in the processional group. The Parthenon Frieze is also not without examples of incomplete fore-

¹⁰ Richter, *op.cit.* fig. 494; *ArchEph* (1917) 204, fig. 16.

¹¹ Svoronos, *op.cit.* 120-136, pl. xxviii. For other examples cf. pl. xxxvii, xlix, lxxxiii, and xci. Incomplete foreshortening survived in vase-painting well into the last quarter of the fifth century; it is particularly evident in the work of the Kleophon Painter.

shortening.¹² The Triptolemos figure is thus entirely at home in the period of the 430's to which we wish to assign the relief.

THE LOWER DRAPERY OF THE DEMETER

The appropriateness of a date in the 430's for the straight folds of the Demeter's lower drapery, that remind one of the dress of the Sterope from Olympia, which we have mentioned above, is established by their appearance on the Parthenon Frieze in several cases which we shall treat shortly. The use of this heavy drapery in relief also extends into the last quarter of the fifth century as is evident from a grave stele¹³ which combines the few sharp ridges, denoting a diaphanous *chiton*, over the breasts, which one associates with the Nike of Paionios, the Nike Temple Balustrade, and the Venus Genetrix type, with a skirt exactly similar in manner to that represented on our relief. Of the three elements of the Eleusis Relief discussed thus far, this provides the least reason for moving the date of the monument back toward 450.

Having disposed of the "archaic" elements of the relief, we are now free to trace the mannerisms of its composition, manifested most clearly in the treatment of drapery, in the Parthenon Frieze. The mannerisms of the Eleusis Relief are grouped below under seventeen headings; each is compared separately to examples from the Parthenon. First come three ways of handling drapery common to two figures of the relief; then follow mannerisms found only on one. The parallels drawn from the Parthenon Frieze are by no means exhaustive. Their purpose is solely to establish that the sculptor of the relief and the craftsmen of the Parthenon worked with a common artistic vocabulary, and they are restricted, with one exception, to the accompanying illustrations. No one would argue that the immediate impression created by the figures of these two monuments, their "spirit," if you will, was the same. It can be demonstrated, however, that the technical repertoire of the relief can be matched on the frieze to such a degree that we may assign their execution to the same period.

¹² Cf. A. M. Smith, *The Sculpture of the Parthenon* (London 1910) pl. 47, section XVIII, fig. 59.

¹³ M. Collignon, *Les Statues Funéraires dans l'Art Grecque* (Paris 1911) 137, fig. 75; J. Beazley and B. Ashmole, *Greek Sculpture and Painting* (London 1932) fig. 106 would date this

I. Mannerisms common to two figures of the relief:

1. Overfold of drapery along an edge of cloth. This mannerism may appear as a single loop of fullness along the border of a garment or as a double loop such as appears in the "swallow tail" composition of the Archaic Period at the apex or meeting point of two obtuse lines of folds.

Eleusis Relief, pl. 110, fig. 1: Demeter, below right wrist and forearm; Persephone below left wrist and forearm.

This is one of the most persistent mannerisms used by the Greek sculptor in treating the edge of excess drapery. It is descended directly from the "swallow tail" folds of the Archaic Age where it is manifest, for example, in the *korai* from the Athenian Acropolis.¹⁴ It can be found, though less widely, among the figures of the Transitional Period, such as those from the Temple of Zeus at Olympia, and later, in the fourth century, it found a place on the edge of the flowing cloak on the Dexileos Stele, which was erected in 394. It is one of the favorite devices of the sculptors of the Parthenon Frieze.

Parthenon Frieze: pl. 111, fig. 8, marshal at left, on edge of *himation* at waist below right wrist; both maidens, along the edge of *peplos* below waist. Plate 111, fig. 6, on the edge of the *himation* to the right of the *phiale*.

2. Edges of overhanging drapery following down the line of a long descending fold in reversing curves.

Eleusis Relief, pl. 110, fig. 1: Persephone, along fold falling from below left forearm to lower edge of *himation*; Triptolemos, along fold falling from left hand.

The device of bringing overhanging material down the line of a fold in reversing curves is also a standard formula inherited from the "swallow tail" convention of the Archaic Age. In the sculpture of the middle and later fifth century it is, of course, always slightly irregular, but it remains a charming way to treat hanging folds of cloth. Again it is found consistently on the Parthenon Frieze.

Parthenon Frieze: pl. 111, fig. 8, marshal at left, *himation* hanging over left knee. Maiden in center of group, drapery under left breast. Fig. 6, edge of

stele at the end of the century.

¹⁴ Cf. H. Payne and G. Mackworth-Young, *Archaic Marble Sculpture from the Acropolis* (New York, rev. ed., 1950) pl. 61-62.

himation descending below the *phiale*. Fig. 7, edge of *himation* at right.

3. "Pie-Crust" Edge. A series of regular shallow depressions along a border, very similar to the puckered surface of the edge of a pie-crust.

Eleusis Relief, fig. 1; Triptolemos, on edge of *himation* hanging along upper right thigh and on a fold hanging by calf of left leg (both inner and outer faces); Persephone, on a fold of *himation* by the left hand. (This mannerism is difficult to see in photographs of the relief.)

The ridged edging along the borders of garments on the Parthenon Frieze may be regarded as one of the distinguishing marks of the Parthenon Style. The horsemen of the north and south portions of the frieze manifest the mannerism most distinctly.

Other examples from the Parthenon Frieze: fig. 8, marshal, edge of *himation* falling along left leg; maiden at right, edge of drapery falling back from shoulder; fig. 9, edge of cloak falling below the seated Apollo's left elbow; fig. 6, edge of *himation* below the *phiale*.

II. Mannerisms restricted to one figure on the Eleusis Relief:

4. V-shaped folds of drapery on the breast just below the neck, often, as on the Eleusis Relief, with no folds over the breast.

Eleusis Relief, fig. 1: Demeter.

Parthenon Frieze: fig. 8, central maiden. Fig. 2.

5. Short, closed troughs representing the texture of drapery on the further arm of a figure seen in profile, i.e. on the arm nearer the surface of the relief.

Eleusis Relief, fig. 1: Demeter, along upper left arm.

Parthenon Frieze: fig. 2.

6. Straight, thick, parallel folds of lower drapery, which, however, do not cover an advanced leg.

Eleusis Relief, fig. 1: Demeter.

The lower drapery of the Demeter is like that of the Sterope from the East Pediment of the Temple of Zeus at Olympia with the important exception that the goddess of the relief advances her left leg, which is almost drawn in outline against the face of the relief.

Parthenon Frieze: fig. 8, both maidens; fig. 2.

7. Related to the preceding mannerism are the broad shallow troughs which are used to represent drapery resting on the advanced foot.

Eleusis Relief, fig. 1: Demeter.

Parthenon Frieze: fig. 8, both maidens.

8. Ruffled edge of drapery thrown back and out over the shoulder.

Eleusis Relief, fig. 1; Triptolemos.

This mannerism was expanded by the artists of the later fifth century into the billowing, flapping cloaks of the Nike Temple and other monuments. But it appears for the first time fully developed among the horsemen on the Parthenon Frieze.¹⁵ The disturbed edge of drapery behind Triptolemos' shoulder on the Eleusis Relief is a limited example of this mannerism.

9. Deep, narrow, closed troughs representing the gathering of bunched drapery.

Eleusis Relief, fig. 1: Triptolemos, drapery gathered in left hand.

The cutting, deeper in this portion than over much of the relief, is very close to that of the Parthenon Frieze.

Parthenon Frieze: fig. 8, marshal, gathered drapery by left hand.

10. Close sharp ridges over the breast representing a light *chiton*.

Eleusis Relief, fig. 1: Persephone.

Parthenon Frieze: There is only one exact parallel for this treatment of light drapery over the breast of the Persephone, but this is a notable one, the Artemis from the East Frieze, fig. 9.

11. Hanging drapery worked in long moderately curved lines, which are not deeply cut in the stone.

Eleusis Relief, fig. 1: Persephone, drapery falling forward over left shoulder.

The Parthenon drapery is generally less linear and more deeply cut than this, but there is one parallel, provided by the same figure as in the preceding case, the Artemis from the East Frieze, fig. 9.

9. The drapery beneath her right arm is worked much in this manner.

12. Shallow curves, radiating toward the foot of the *himation*.

Eleusis Relief, fig. 1: Persephone, to the left of the torch below left knee.

This kind of treatment, seen in the curves running out from beside the torch on the lower portion of Persephone's *himation*, can be matched on the Parthenon Frieze, fig. 5.

¹⁵ E.g. the horseman, Richter, *op.cit.* fig. 247; Smith, *op.cit.* pl. 66, section VIII, fig. 15.

13. Deeply cut, crinkly *chiton* protruding under the edge of the *himation*.

Eleusis Relief, fig. 1: Persephone.

This mannerism is found in its earliest definitely dated appearance on the Parthenon Frieze, fig. 3, fig. 6.

14. Wide, flat ridges, which broaden toward each end, on material pulled across the body.

Eleusis Relief, fig. 1: Persephone, on *himation* drawn across abdomen.

This characteristic of the drapery of the Persephone does not appear clearly in the photographs of the relief which are usually printed and are lighted from the left in order to achieve a contrast of light and shadow between the faces of the Persephone and the Demeter.¹⁶ Such lighting makes it impossible to see the flat ridges along part of Persephone's *himation*. This is a well-marked mannerism of the Parthenon Frieze.

Parthenon Frieze: fig. 8, on *himation* along right leg of marshal. Fig. 9, on drapery over the legs of the Apollo, seated to the left of Artemis.

Examples of the preceding mannerisms are prominent on the Parthenon Frieze. The remaining techniques for representing drapery found on the Eleusis Relief are less characteristic of the former monument.

15. Composition of drapery in triangular forms.

Eleusis Relief, fig. 1: Demeter, repeated throughout the drapery above the waist.

It is difficult to find examples of this mannerism on the Parthenon Frieze; when it occurs it is found in isolated instances, never in the profusion of the Eleusis Relief.

Parthenon Frieze: fig. 4.

16. Curved masses of hanging drapery worked out, from the edge toward the center, in long, shallow, concentric arcs.

Eleusis Relief, fig. 1: Demeter, drapery hanging at the waist.

Perhaps it is because this sort of arching mass of drapery is not found on the Parthenon Frieze that such long, shallow arcs as appear under the right forearm of the Demeter are not present. The rounded arcs which do occur create the impression of rounder and heavier fabric than the Eleusis Monument achieves with its extremely low relief.

Parthenon Frieze: fig. 6, *himation* over legs.

17. Hanging drapery marked by shallow radiating lines.

Eleusis Relief, fig. 1: Triptolemos, drapery between legs.

This mannerism is closely connected with the archaic tradition¹⁷ and is related to the shallow radiating curves we have already noted on the Persephone's *himation*, No. 12. On the Parthenon Frieze it appears as raised ridges rather than incised grooves.

Parthenon Frieze: fig. 7, radiating ridges on *himation* between legs.

CONCLUSIONS

Conclusions reached on stylistic grounds alone are never completely certain, and the lack of definitely dated monuments makes the fifth century a difficult period in which to work. Nevertheless, once we have noted instances of the "archaic" elements of the Eleusis Relief occurring in the latter half of the fifth century and thus have weakened the basis for dating this monument toward 450, the amazing parallel in technical vocabulary between the artist of the relief and the sculptors who made the Parthenon Frieze becomes indicative of some relationship between these two monuments.

The appearance of "pie-crust" edge is a telling fact in linking the two reliefs, and since the Parthenon Frieze represents the first dated occurrence of a deeply cut *chiton* protruding under a smooth *himation*, it provides a working *terminus post quem* for dating the Eleusis Relief. The relation of the two monuments is closest, naturally, between the goddesses of the relief and the row of maidens who march along the East Frieze on slabs VII and VIII. In this company we find the heavy parallel folds of the lower *peplos* of the Demeter with the advanced leg almost drawn in outline, the shallow troughs above the foot, the deeply cut crinkly *chiton* of the Persephone, use of "pie-crust" edge, the single and double overloops of drapery above a fold, reverse curves following down a crease, v-necked drapery lacking folds over the breast, and the mannerism of the flat ridge which broadens toward each end. The general oblong proportions made by the drapery covering the trunk and legs are very similar in both works, and we may note too that examples of both the sleeved *chiton* which the Persephone wears and the Demeter's sleeveless garment appear on the Parthenon Frieze.¹⁸

¹⁶ Svoronos, *op.cit.* 108, note.

¹⁷ Payne and Mackworth-Young, *op.cit.* pl. 28 and 34.

¹⁸ Cf. pl. III, fig. 8, maiden at right, sleeveless, figs. 2 and 3, sleeved.

These parallels point to a date 440 or after for the execution of the Eleusis Relief. They also have a more general significance, for they show the consistent artistic vocabulary employed by the sculptor of Periclean Athens. These mannerisms were preserved from the traditions of the Archaic and Tran-

sitional Periods and adopted from the innovations of the mid fifth century. Used in different ways, they produced both the Parthenon Frieze and the Eleusis Relief.

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The "Bactrian Nickel Theory"*

SCHUYLER V. R. CAMMANN

For nearly ninety years various writers have stated, and passed on, the improbable-sounding theory that a certain copper-nickel alloy, used briefly by several of the Graeco-Bactrian kings for their lesser coinage, had been imported from Southwest China. This supposition, after having been declared illogical on many grounds, has repeatedly been refuted.¹ However, in the October 1957 issue of *AJA*, Messrs. C. F. Cheng and C. M. Schwitter again attempted to revive the theory in their article, "Nickel in Ancient Bronzes."

The arguments which these writers employed to buttress their claims for the use of nickel bronze in Ancient China and the transport of Chinese ores to Bactria were ostensibly based upon Sinology, a subject in which they were ill-equipped, although they presented their article in such a way as to sound impressive to people outside the Oriental field.² The present article offers a review of the origin and development of the "Bactrian nickel theory," in order to show the recent arguments in their proper perspective and point out their fallacies, and to demonstrate that the theory is still defunct.

In 1868, Dr. Walter Flight of the British Museum analyzed a Bactrian coin of Euthydemus II, from the second century B.C., which had been brought back from India by Major-General Alexander Cunningham, later famous as the first chief of the Archaeological Survey of India. Dr. Flight discovered that this coin had been made from an alloy, which he said contained some 77% of copper and 20% of

nickel, together with small quantities of other minerals³ (although more modern analyses by new methods give a slightly lower percentage of nickel). Reporting his analysis in the *Numismatic Chronicle*, he commented that although nickel had only been identified in Europe in 1751 and used there since that time, it seems to have formed a very constant constituent of some of the alloys known for a long period to the Chinese.⁴ In this connection he went on to cite analyses of Chinese nickel-bearing alloys recently tested in Europe, particularly one called "pak tong" in Cantonese, or "pai t'ung" in Mandarin, meaning "white copper," although the name had previously been used to refer to "white bronze," something very different.

Dr. Flight was unable to specify whether any of the Chinese alloys which he mentioned was contemporary with the Bactrian coins, but it is now clear that they were not. These copper-nickel alloys from China, familiar in 18th and 19th century European commerce, were of comparatively recent invention. The previous Chinese references to "pai t'ung" undoubtedly alluded to the so-called "speculum metal," used in particular for making bronze mirrors. This contained no nickel, except for occasional impurities (apparently not uncommon in copper ores), but it was very rich in tin, which imparted the silvery sheen that gave the metal its name of "white bronze."⁵

Later, General Cunningham sent several more Graeco-Bactrian coins to Dr. Flight, who found that some struck by Agathocles and Pantaleon, now presumed to have been brothers of Euthydemus II,⁶

aware that they were referring to the same period under two different names, of which only the first is the correct one. They often cite one of the most important compilations of Chinese science, the *T'ien-kung k'ai-wu* as "Tien Kung Kai Mu." Referring to Shu, which is the classical name for Szechuan province in West China, they call it "Shuh" and explain falsely that it is the name of a city. For other sinological errors, see note 35 infra.

³ W. Flight, "On the Chemical Composition of a Bactrian Coin," *Numismatic Chronicle* n.s. 8 (1868) 305-308.

⁴ *ibid.* 307.

⁵ For analyses of some ancient Chinese bronze mirrors, see R. W. Swallow, *Ancient Chinese Bronze Mirrors* (Peiping 1937) 64-65.

⁶ W. W. Tarn, *The Greeks in Bactria and India* (Cambridge, England, 1951) 76-78.

* This article was submitted in November, 1957, and the editor regrets that lack of space prevented its earlier appearance.

¹ Two recent efforts to refute the "Bactrian nickel theory" were: E. R. Caley, "The Earliest Use of Nickel Alloys in Coinage," *Numismatic Review* 1 (1943) 17-19, and S. Cammann, "Archaeological Evidence for Chinese Contacts with India during the Han Dynasty," *Sinologica* 5 (1956) 1-8.

² The authors' fundamental deficiency in Chinese language and culture is immediately apparent to anyone who knows the language at all, because they have used several conflicting forms of romanization for Chinese words and names, sometimes two different ones for the same name; they have not maintained the standard conventions even when using the established (Wade-Giles) system, and some words they have simply miswritten completely. For example, they refer to the Eastern Chou Dynasty, and again to the "East Chow Dynasty," apparently un-

were also of the same copper-nickel alloy.⁷ In reporting this, Dr. Flight added that, judging simply by appearances without actual test, he thought that five coins of Apollodotus, a contemporary of the three kings already mentioned, and one coin of Philoxenus, a successor, were also made from this alloy.⁸ This suggests a relatively greater quantity and wider distribution of the coins in question, requiring a considerable amount of the nickel-copper alloy to make them. (Uneven amounts of the two basic metals make it clear that they were blended in nature and not by design.)

From Dr. Flight's testimony, General Cunningham drew what seemed to him to be the obvious inferences, and in 1873 he wrote in the *Numismatic Chronicle* that he was inclined to the opinion that the nickel might have come from China. He pointed out that Quintus Curtius, in his life of Alexander the Great, had stated that when Alexander was in the Panjab region, he had received from two Indian tribes (the Oxydracae and the Malli) a present of one hundred talents of "white iron,"⁹ which he, General Cunningham, concluded must have consisted of nickel, more specifically the Chinese alloy of nickel. "Commerce has always been active between India and China," he reminded his readers, "and it was very easy for a merchant to reach the Panjab and Kabul [where some of the Graeco-Bactrian kings were reigning] from the western coast of India."¹⁰

In the first place, this commerce between China and India apparently did not begin until a later period, some time after the death of the Bactrian kings in question. In the second place, assuming for a moment that there were nickel-copper mines in the still barbarous region of modern Yunnan, which was not yet a part of the Chinese Empire—although there is no reason to believe that they did have such mines at that time—how could the ore or metal have reached the sea from there? It certainly could

not have been by way of Burma, as the high mountains and deep valleys of western Yunnan make that one of the most corrugated areas on the earth's surface; and the way east to the sea would have also been most difficult, hazardous, and very expensive. When the reigning Han Emperor sent several expeditions to Yunnan to look for a rumored southern route to India, toward the end of the second century B.C., many decades after the production of the coins in question, his envoys found that such a route did not exist.

Furthermore, General Cunningham himself pointed out that no trace of nickel has yet been discovered in any of the purely Indian coinages,¹¹ and, except for a few examples of bronze containing nickel from the ancient Indus Valley sites,¹² no examples of nickel bronze have yet been recovered from any other excavations in the Indian subcontinent except at Taxila, which was then within the Graeco-Bactrian realm.¹³ If a valued metal had passed through any part of India, some would doubtless have been detained as "tribute" by local rulers along the way. As to the "white iron" mentioned by Quintus Curtius, the people of India at a very early date had succeeded in producing fine quality steel (which they later shipped to the Romans),¹⁴ and it seems likely that it was some of this that had been presented to Alexander.

The theory of a Chinese origin for the Bactrian nickel-copper was accepted and further elaborated by W. W. Tarn, in his remarkable reconstruction of the Greek kingdoms in Bactria and India, based on his thorough study of their coinage.¹⁵ However, Tarn was not so competent in discussing problems from the Chinese side. In dealing with the Far East he was clearly out of his element. For example, he accepted an obsolete attribution for "the famous white bronze mirror of the Han period with Graeco-Bactrian designs" in the Victoria and Albert Museum,¹⁶ in spite of the fact that Paul Pelliot had

⁷ W. Flight, "Contributions to our Knowledge of the Composition of Alloys and Metalwork," *Journal of the Chemical Society* 14 (1882) 135.

⁸ *ibid.* 237. A purely visual test was hardly adequate, yet the coins of Apollodotus could have been made of the nickel-copper alloy, as he was apparently an uncle of the three brother-kings who were using this metal for coinage; see Tarn, *Greeks in Bactria*, 76. No other coins of Philoxenus have been reported, so this final identification may have been mistaken.

⁹ See Quintus Curtius Rufus, *Historiarum Alexandri Magni Macedonis*, E. Hedicke ed. (Leipzig 1908) IX, 8, *et ferri candidi talenta C.*

¹⁰ Gen. A. Cunningham, "Coins of Alexander's Successors in the East," *NC* n.s. 13 (1873) 189-190.

¹¹ *ibid.* 191.

¹² Cheng and Schwitter, "Nickel in Ancient Bronzes," *AJA* 61 (1957) 352, text: 353, Table III.

¹³ Sir John Marshall, *Taxila* (Cambridge 1951) II, 572.

¹⁴ See W. H. Schoff, "The Eastern Iron Trade of the Roman Empire," *JAOS* 35 (1915) 224-239. Although it was also a long journey from India to Rome, this could not be compared with the far more difficult land route from Southwest China to Bactria. Furthermore, the finished steel was carried by sea, which was many times cheaper than land transport; and the fine Indian steel was rare and valuable to the Romans, who regarded it as a precious metal.

¹⁵ Tarn, *Greeks in Bactria*, 87, 111, 363, etc.

¹⁶ *ibid.* 363.

already convincingly demonstrated that this type of Chinese mirror actually dated from the T'ang Dynasty (A.D. 618-906), a thousand years later,¹⁷ and had shown that its pattern had nothing whatever to do with the Bactrian Greeks.¹⁸

Tarn seems to have concluded that the appearance of the nickel-copper alloy in Bactria must have been due to a march of conquest by Euthydemus I, specifically, a penetration of what is now Chinese Turkestan, although there is no confirmation of such an expedition from any other source.¹⁹ However, one glance at a relief map should be enough to show that a supply of copper-nickel (in ore or bars) large enough to produce a considerable supply of coins in a low denomination, would be economically impossible by that route, especially if it had to come from far-off Yünnan. Even if the nickel alloy was passed from tribe to tribe over that difficult terrain, as Tarn assumed, rather than being brought more directly, the amount that finally would have reached Bactria, after the intervening local princes and town rulers had taken their cuts, would have been of very small quantity and virtually worth its weight in platinum. The cost of land transport even across relatively level terrain was fantastically high in those days, as we know from the accounts of the silk trade between China and Rome, which began more than a century later, after some of the difficulties of such transport had been smoothed away.²⁰ Again assuming that any nickel-copper was being mined in Southwest China at that time, which is most unlikely, the very small quantity of such an alloy which could have reached Bactria would have been too slight and far too valuable for any large-scale production of coins in a low denomination. We do not know their exact value in those times, but one specialist has said they were equivalent to ordinary bronze or copper coins, or at least of lesser value than the silver ones.²¹

Tarn, like other writers before and since, who were discussing possible connections between China and Bactria, cited the fact that the Chinese envoy Chang Ch'ien, who visited Bactria in 128 B.C., thought that he had seen, in the markets there, "Szechuan cloth" and bamboo, which the merchants

told him they had purchased in India.²² Chang Ch'ien knew nothing about India. He did not realize that many kinds of bamboo also grow there, some in the very foothills of the mountains which separate India from the lands to the north, so that it would not have been necessary to bring the staves which he saw in Bactria all the way from Western China by way of India. The same applies to the non-silk cloth, which could have come from India itself. Ancient overland trade covering long distances almost invariably involved light yet costly luxury items, which would provide the maximum returns with the smallest possible outlay for transportation expenses. Merchants simply could not afford to carry cheap and bulky goods which would already be accessible at places much nearer to their ultimate destination. It would have been absurd to transport them across Western Yünnan, Burma, Assam, and the breadth of India, in order to reach Bactria. However, Chang Ch'ien did not know how difficult this route was; he merely knew that such transport would have been impossible over the northern route which he himself had travelled, through Chinese Turkestan, and therefore he thought there must be a southwest route to India. It was when he came back and suggested this, that the Han Emperor sent out the expeditions to find such a route, but even the subsequent conquest of Yünnan, and its addition to China, failed to prove the existence of such a route.²³

The theory that the Bactrian nickel alloy came from China was again revived in Sir John Marshall's final report on the excavations at Taxila, published in 1951.²⁴ In that work, Mr. Sana Ullah, Archaeological Chemist to the Government of India, stated that articles of the copper-nickel alloy occur at Taxila from the third to the first centuries.²⁵ However, on reading other sections of the Taxila report, it is clear that these alloys were definitely only found in the coins of the three Bactrian-Greek rulers already mentioned, who as sub-kings ruled for short periods—in part, simultaneously—during the first half of the second century B.C. (contemporary with the early part of the Han Dynasty), and in pieces of jewelry, etc., which the report admits

¹⁷ P. Pelliot, book review in *T'oung Pao*, ser. 2, 22 (1921) 143-146.

¹⁸ This pattern and its non-Hellenistic character are fully discussed in S. Cammann, "The Lion and Grapes Patterns on Chinese Bronze Mirrors," *Artibus Asiae* 16 (1953) 265-291.

¹⁹ Tarn, *Greeks in Bactria*, 87.

²⁰ See Schoff, "Eastern Iron Trade," 227.

²¹ Caley, "Earliest Use of Nickel Alloys," 18.

²² Tarn, *Greeks in Bactria*, 87.

²³ This argument was previously stated in Cammann, "Archaeological Evidence for Chinese Contacts with India," 5-6, and in a book review in the *Far Eastern Quarterly* 12 (1952) 58.

²⁴ Marshall, *Taxila*, I, 40, 107, 129; II, 571-572.

²⁵ *ibid.* II, 572.

were probably made from metal obtained by melting coins from this group, in the time-honored fashion of Indian jewelers.²⁶ Thus, the period of the actual primary use of the nickel-copper alloy is narrowed down to some thirty or forty years during the early second century B.C. Certainly, if the metal had really come from China, we would scarcely expect to see the supply fade off completely just before Han China opened up trade with Central Asia, including Bactria, in the closing years of that century. Briefly, although the writers of the Taxila report seem to have felt sure that the nickel-copper came from China, through reliance on Cunningham and Tarn, they wrote nothing that could give greater credence to the theory.

The last people to try to prove that the Graeco-Bactrian kings had used Chinese ores were Messrs. Cheng and Schwitter, in the October 1957 issue of *AJA*.²⁷ Their chief thesis was that the metal had come from Hweili, in Sikang Province, China. However, this is even more fantastic than the idea that it had come from Yunnan. One wonders why they chose Hweili, rather than a number of other mining centers in Yunnan and Southwestern Szechuan in which small amounts of nickel have been found in association with copper.²⁸ On a flat map of Asia (i.e. a political map, lacking indications of relief) Hweili might appear to be slightly nearer to Bactria than most of the other mines. However, it is situated in the mountains of Eastern Tibet in a relatively inaccessible area, far from any good or practical east-west lines of communication or transport, then as now, twenty-two centuries later. This region was not claimed by China until later in the Han Dynasty, after the House of Euthydemus had passed away, and there is no record that mining was practiced there for many centuries afterwards. All the objections that we have cited for the passage of ores or metals from Yunnan to Bactria apply even more strongly to less accessible Sikang, which was then only sparsely settled by wild tribesmen.

In an effort to strengthen their case, the two authors once more presented the time-worn story of

how Chang Ch'ien had reported having seen in Bactria what appeared to be products from Szechuan. (In doing this, they miscalled him "Chang Keen," misspelled almost all the other Chinese names and terms, gave erroneous explanations in the notes, and failed to mention the sequel of the story, in which the Chinese envoys of the Han Emperor discovered that there was no Southwest trade route between Yunnan and India after all.)²⁹ Then they briefly referred to a previous publication which demonstrated why Chang Ch'ien had probably been mistaken,³⁰ with the comment, "if this premise is correct, the only alternative is to postulate existence of an ore body with characteristics similar to that of Hweili but more accessible to Bactria." The article to which they referred had done just that, but since they ignored its statements regarding possible alternative sources for the Bactrian nickel, it might be expedient to repeat them, in slightly greater detail.

Some of the Bactria kings who used the nickel-copper coinage seem to have been ruling from what is now central and southern Afghanistan, across the Hindu Kush from Bactria, and Tarn has shown that the coins of Agathocles and Pantaleon were probably struck in the city of Nagarahara, near modern Jelalabad.³¹ This general region contains mountains with great potential mineral wealth, untapped in modern times, and it is quite possible that it then had mines producing copper ores which had nickel in association. (Such a source might also account for the origin of the bronze with nickel found in the Indus Valley civilization of many centuries earlier, since that culture also had settlements in southern Afghanistan, notably the newly-discovered site of Mundigak, north of Kandahar.) Later, these particular Afghan mines might have given out; or, more likely, after Eucratides came from the West to destroy their dynasty and set up his own rule in Bactria proper, north of the Hindu Kush, he and his successors found the transportation problem over the high mountains impractical, and turned to other sources of copper closer at hand.

The existence of ancient copper mines in Afghan-

²⁶ *ibid.* I, 107.

²⁷ Cheng and Schwitter, *op.cit.* 356-358, 362-363.

²⁸ Other sources in Szechuan and Yunnan were mentioned by Wong Wen-hao, "The Mineral Resources of China," *Memoirs of the Geological Survey of China*, Series B, 1 (1919) 213. In quoting this source in their bibliography (no. 28), Messrs. Cheng and Schwitter not only miswrote the author's name, but they gave the wrong date of publication (1929 for 1919). This is a typical example of their careless bibliographical listing.

²⁹ Cheng and Schwitter, *op.cit.* 362. Not only do they wrongly define Shu (misspelled Shuh) as the name of a city, rather than a large provincial area, in note 3; but in note 4 they also define ch'ung (misspelled "keang") as "the name of a hill in Szechwan," when actually it is the term for a species of bamboo.

³⁰ See Cammann, "Archaeological Evidence," 8.

³¹ Tarn, *Greeks in Bactria*, 159.

istan is admittedly only a probability; but there actually were very old copper mines in the Nain District of Central Persia, in which modern investigators have found nickel ore as well,⁸² and the brother-kings would have had access to this part of Persia through Seistan (now Eastern Iran) which belonged to their realm. Here, too, the coming of their enemy, Eucratides, to take over their rule could easily account for the sudden end of the use of this particular metal, because he and his successors, through concentration on establishing control over Northwestern India, and through Parthian aggression, lost both their western possessions and their contact with Persia.

As far as the writer knows, no early Persian or Parthian metal objects have been tested for the presence of nickel; but, since the old Persian copper mines are known to have contained both metals, one would expect to find some in them. There is no point in looking afar for what is nearby. Even a Persian source for the copper nickel alloy found in Bactria would be far more logical in the light of history, geography, and the economics of ancient transportation, than any source in Early Han China.

The theory that the Chinese had provided copper with nickel in it to the Graeco-Bactrians might seem slightly more plausible if it could be proven that the Chinese had known and used such an alloy themselves. This Messrs. Cheng and Schwitter tried to do. Turning to Chinese philology, they took the word "wu," which still has the primary meaning of

"to gild, or plate with silver," and explained that in A.D. 230 a lexicographer had defined this word as referring to "pai t'ung."⁸³ (Apparently he meant "white bronze," referring to the contemporary copper-tin alloys; he was writing some four hundred years after the Bactrian kings had struck their nickel copper coins, but many centuries before the Chinese invented the deliberate alloys of copper and nickel which they ultimately called "pai t'ung.") They boldly assumed that he had meant "pai t'ung" in its very late meaning describing the deliberate copper-nickel alloy, and then they arbitrarily stated that all previous uses of this word (before A.D. 230) had been referring to the copper-nickel alloy;⁸⁴ which of course is incorrect.

Continuing in this vein, they criticized the translations of such respected sinologues as the late James Legge and Professor Karlgren of Sweden, because they had not mentioned "white copper" (i.e. copper nickel) in translating texts which actually never referred to it. In the first case, Dr. Legge is accused of using poetic license in translating the word "wu" (which, as stated above, has the primary meaning of "to gild, or plate with silver") as meaning "gilt"; while Karlgren is criticized for translating it as "silvered."⁸⁵ The original text, from the Book of Poetry (Shih Ching), had used the word in describing harness rings and buckles and ceremonial spear tips. Either of these translations would be possible, since numerous museums and private collections have actual Early Chinese bronze objects

⁸² See G. N. Curzon, *Persia and the Persian Question* (London and New York 1892) 519. He reported that nickel and cobalt ores had recently been discovered near Anarek in the Nain District, in old copper mines that had evidently been worked for centuries.

⁸³ Cheng and Schwitter, *op.cit.* 355. This item was apparently first located by them in an American work (B. Laufer, *Sino-Iranica* [Chicago 1919] 555), but they chose to cite a Chinese reference (no. 17, discussed in note 35 infra), garbling it completely in the process.

⁸⁴ Cheng and Schwitter, *op.cit.* 355-356.

⁸⁵ *Ibid.* 356. The criticisms seem even more remarkable in view of the slipshod scholarship revealed in the bibliographical references.

One of their key sources is no. 29, "Chinese Material Medica, by Chen, L.S." Only a reference to the original manuscript (which Mr. Schwitter circulated before publication of the article) provided the clue to the original work. The authors were here referring to the well-known Ming encyclopaedia of botany, zoology and medicine, *Pên-tao kang-mu* by Li Shih-chen. Quite apart from their strange rendering of the title, which is neither a translation nor a possible paraphrase of the original (even without the *l* which they added to the word *Materia*), the reference is unrecognizable because of the name they gave to the author. The surname of this famous Chinese scientist was Li,

a fact which is obvious to anyone who knows Chinese. A similar mishandling of Chinese names is also shown in other bibliographical citations: such as the reference to Li Ch'iao-p'ing, author of *The Chemical Arts of Old China*, as "Chiao-ping, L." and to Wong Wen-hao, the eminent geologist, as "Wen-ho, W." When they quoted a Chinese author who had signed his name with initials, they merely copied it, and thus presented it correctly (except for disregarding the necessary marks of aspiration); but when the author's name was given in full, they did not know how to abbreviate it and invariably guessed wrong—although even their mistakes were not consistent.

Perhaps the strangest citation in the highly garbled bibliography is no. 17, "Chi Fu Tsung Shu, (by) Ching, K.L.Y.," incidentally, one of the authors' key sources. After some investigation, it developed that the reference was to the *Ch'i-fu tsung-shu* compiled by Wang Hao-pien. Apparently the totally fictitious name for the author had been obtained by taking the title of the subsection of this work in which their specific passage had been found, *kuang-ya su-cheng*, and by transposing the second and third words, misspelling the third and fourth words, and wrongly abbreviating what remained; thus they arrived at "K.L.Y. Ching," and then reversed it to read "Ching, K.L.Y." (The only way in which this jumbled reference could be deciphered was by a chance clue found at the end of the original *ms.* circulated by Schwitter.)

of these descriptions decorated with gold or silver plating, or both.³⁶

Disregarding the evidence from known antiquities, the authors state, "Logic suggests that the bridle hardware of these early day war chariots would have been cupro-nickel rather than a silver alloy [the text had said nothing about a silver alloy] because of its greater strength."³⁷ Again, they remark, "No warrior of those times, critical of his weapons and equipment, would have gone into battle with a spear equipped with silver points if bronze were available to him. . . . Ordinary bronze might do, but since the reference is precise at least in describing the metal as white [it does not do so], the most likely supposition is that the poem refers to one of the earliest uses of nickel bronze known to man."³⁸

Messrs. Cheng and Schwitter were very anxious to show that the early Chinese used "white copper," that it was specifically cupro-nickel, and that they passed this on to the Bactrians for use in their distinctive coins. However, they have not succeeded in proving that nickel bronze was recognized and deliberately produced in Ancient China, any more than they could prove that Chinese ores from

Hweili (or anywhere else in the Southwest) were carried overland to Bactria.

In their lists of Chinese examples tested, even granting that the attributions to specific dynasties or periods were all correct, the amounts of nickel observed were so slight and so irregular that they do not indicate any deliberate creation of alloys.³⁹ Most likely they were present as impurities in the original ores. (The testimony from other authors quoted by them shows that copper ores in many parts of the world may contain small quantities of nickel as an impurity; or larger quantities of nickel may be found in association, as in Central Persia.) That is the only way one could account for the presence of nickel in bronzes from such widely separated areas as Ancient Syria, Mesopotamia, India, Bactria, and China, in early times, before nickel was recognized as an independent element.

The "Bactrian Nickel Theory" is still dead, and one hopes that it will remain so, undisturbed. Modern science offers enough live problems to be solved, without making it necessary to waste time reviving and reburying the dead ones.

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³⁶ Especially fine examples can be seen in the Freer Gallery of Art, Washington, D.C., and in the William Rockhill Nelson Gallery, Kansas City.

³⁷ Cheng and Schwitter, *op.cit.* 356.

³⁸ *ibid.*

³⁹ *ibid.* 354-355, Tables IV and V.

News Letter from Rome¹

A. W. VAN BUREN

PLATES 112-119

The year under review has witnessed steady progress in the various undertakings already mentioned in previous reports, culminating in several instances in the creation and installation of new museums; a welcome crescendo in the current publications; and along with this, the initiation of at least one fresh enterprise that promises to be of the first magnitude. Of outstanding individual finds there has been no lack.

In ROME, the Soprintendenza for Palatine and Roman Forum has been chiefly occupied with carrying further or bringing to completion the undertakings of previous years.² The soundings in the Republican Comitium have reached a greater depth, with important new stratigraphical data; a sounding has been made on the east side of the Curia, flanking the Argiletum, in order to complete the survey of the Curia of Diocletian, the publication of which, as a posthumous work, prepared by the late Professor Alfonso Bartoli, is to appear in the near future.

For the Arch of Septimius Severus, the task of consolidation and restoration has been started by the Soprintendenza, in collaboration with the Istituto Centrale del Restauro, which will devote especial attention to the reliefs.

On the Palatine, in addition to the consolidation of the western corner of the Domus Tiberiana, the partial restoration of the imperial box of the "Stadium" has been carried to completion, with the roofing of one of the lower rooms which preserves its painted wall surface.

The stability of the sector of the Colosseum facing towards the Baths of Trajan has been threatened by the vibrations caused by a volume of heavy traffic in the vicinity such as can hardly have been contemplated by the builders. Structural repairs and propping, combined with the establishment of

a zone prohibited to traffic, appear to have met the situation for the present.

Excavations conducted by the archaeological service of the Commune of Rome in an area near the Colosseum extending towards the main edifice of the Domus Aurea have revealed, lying beneath the vestiges of Nero's fire, the presence of buildings of the Republican period.

On the Via Appia outside the city, a marble statue of Silvanus, about 3½ ft. high, was found in March of this year:³ a welcome addition to the already extensive evidence for the cult of this rustic deity in or near Rome itself.⁴

The occasion of the Third International Congress of Greek and Latin Epigraphy, in Rome in early September, 1957, while memorable in itself, was also notable for the exhibit of the "Fototeca" for the architecture and topography of Ancient Italy, created by the International Union of the Institutes of Archaeology, History, and History of Art in Rome, and at present installed in the main building of the American Academy; and also for the inauguration of the vast new underground *Galleria Lapidaria* of the Capitoline Museums, including 20 inscriptions of outstanding importance recently added to the collection, mostly from current finds, but also, in the case of the famous statue bases of Q. Aurelius Symmachus and Virius Nicomachus Flavianus (*CIL* VI, 1699 and 1782), transferred here from the Caelian (Villa Casali).

In the extreme northeast corner of the VATICAN CITY, excavations which had begun as preliminary to establishment of a parking ground for motor vehicles soon became transformed into an archaeological investigation of great significance: for they revealed an extensive stretch of the already-known cemetery of the Via Triumphalis, and they demonstrated, particularly by the evidence of two inscrip-

¹ The most recent installment of these reports appeared in *AJA* 61 (1957) 375-86, pls. 105-14.

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M. Pallottino, G. Rizza, G. A. Ruggieri, P. C. Sestieri, J. B. Ward Perkins.

² Soprintendente, Dr. Gianfilippo Carettoni, who kindly supplies information.

³ *ILN* no. 6202, April 19, 1958, 630.

⁴ *CIL* VI contains as many as 123 inscriptions testifying to the cult.

tions, that this area was already in use for burials as early as the principate of Nero, the date to which a venerable and persistent tradition assigns the burial of St. Peter in the neighboring cemetery of the Via Cornelia and/or the Via Aurelia Nova. Actually this area, as is shown by the character of some of the monuments, had begun to be used for the purpose of burial as early as the time of Augustus.⁶

Along what was once the steep hillside of the Mons Vaticanus, eight sepulchral edifices of various types, and observing the rites of both inhumation and cremation, have already been discovered with much of their adornment and contents intact, also over 40 stelae of marble or travertine, and a considerable number of scattered inhumation burials.

The inscribed stones are numerous. One of the Neronian inscriptions mentions a forest-guard, the slave of Nero, who is designated by the formula usual during his lifetime, and the other a woman, the wife of an employee in the Latin Library: here both husband and wife were slaves of the emperor, who is again mentioned as reigning.

The numerous scattered burials formed of a covering of roof-tiles show many stamps of the various Roman kilns, roughly datable and ranging in date from the first to the third century of our era; the coins ("Charon's obol") deposited inside or close to the skulls attest a roughly corresponding lapse of time during which the cemetery remained in use. The various objects of funerary equipment include several of great interest for Roman life and customs: a cunningly wrought bronze inkwell, provided with an ingeniously devised stopper so effective and airtight that when opened the object was found still to contain the congealed remains of the ink, requiring only the application of a few drops of water to be usable once more and to enable a specialist to ascertain the nature of its composition; and—a kind of garment represented by extremely few examples in the archaeological repertory—a large sack-like object woven out of asbestos: Pliny, *N. H.* 19.19, states that such mantles—"the burial robes of kings," in his words,—were sometimes used in cremation to keep the ashes of the deceased's body separate from those of the faggots of the pyre.

This extremely compressed account will suffice to show that Dr. Magi's full publication, while it will be conditioned on the completion of these ex-

cavations, still at an early stage, will be awaited with the keenest interest not only by archaeological specialists but by the wider public for whom the names of the Vatican Hill and of the Apostle possess profound significance.

A perfect Autumn day, October 16, 1957, gave the opportunity to appraise HADRIAN'S TIBURTINE VILLA, in the state of maintenance and reconditioning created by the recent campaigns planned and executed by the Soprintendenza.⁶ The interest centers about the Teatro Marittimo, the great piscina on the terrace beside the Pecile, and the Canopus: all of these, with the re-installation of the water supply and the display of architectural details and cement reproductions of statuary, have recovered something of the effect originally intended by the Architect-Emperor. A word of commendation is deserved for the measures that have been taken to facilitate a visit to this spot, with its unique blending of the charms of art and nature. It may still have surprises in store; for in May, 1958, the Roman papers announced the finding of several more statues including another Caryatid.

The sensational developments at the grotto of SPERLONGA (anc. Spelunca, on the coast between Terracina and Gaeta), were reported with admirable promptitude by the Soprintendente, Dr. Giulio Jacopi, in an illustrated article and later in a lecture.⁷ More than 5,500 fragments of statuary were found buried beneath the masses of rock which had fallen from the roof of the cave, especially, one may assume, on the memorable occasion narrated by Tacitus, *Ann.* 4.59, when the Emperor Tiberius was surprised by such a fall while banqueting in the cave, and was protected from harm by Sejanus, who interposed his own person and thus risked his life to shield the Emperor. Several inscribed fragments record the names of sculptors, including some of the collaborators on the famous group of Laokoon and his two sons. The recomposition of the *disiecta membra* has challenged the resourcefulness of the capable restorers in the service of the Soprintendenza. Not even the outstanding pieces thus recovered can be enumerated in this brief account. The progress of this remarkable investigation has revealed that the features of this natural cave were adapted by artistic means to serve as a nymphaeum, with a display of water and a lavish use of effectively

⁶ Dr. Filippo Magi, who is directing the excavations, has kindly communicated the number of the periodical *Ecclesia*, October 1957, containing, pp. 488-94, an informative illustrated article by Sandro Carletti based on material supplied by Dr.

Magi.

⁶ *ILN* no. 6174, Oct. 5, 1957, 552-53.

⁷ *ILN* no. 6177, Oct. 26, 1957, 710-11; report in *Il Tempo*, May 10, 1958.

disposed pieces of statuary. By an exceptional stroke of fortune, portions of an inscription in hexameter verse have been found, in which a certain Faustinus, whom it is tempting to identify with the well-known friend of the poet Martial, lauds the amenities of the grotto and boasts of his own share in its embellishment.

This natural grotto, with its opening upon the shoreline, appears, in the light of the account in Tacitus, to have served occasionally, among its various functions, as a banqueting-hall for the great imperial villa which extended up the hillside; except for the risk of falling rock, it would have formed a delightful refuge from the heat and glare of summer.

The far-reaching program of the investigations in WESTERN LUCANIA on the part of the Museo Nazionale of Salerno, in close collaboration with the Soprintendenza for the Provinces of Salerno and Potenza, is already known from former years.⁸ We can now record⁹ not only the systematic development of the undertaking in Western Lucania but the widening of interest to include some sites in Southern Campania.

At SALA CONSILINA, the continuance of the investigation of the archaic necropolis brought to light, in the year 1957, 331 more burials, including only 35 practicing cremation, but all of them of the type *a pietre*, and with rich funerary equipment.

After this, investigation of the other burial zone was undertaken, further to the north, in the Contrada San Nicola, where 82 tombs have been uncovered up to the present, of the same type as the former ones, including only 9 practicing cremation, but of a culture corresponding to that of the first Oenotrio-Ausonian phase (eighth-seventh centuries B.C.) of the larger neighboring archaic necropolis. It has been revealed as especially rich in tombs assignable to the succeeding Ionic Orientalizing phase and to the archaic period (seventh-fifth centuries B.C.), with especially attractive equipment, whether for the examples of ceramics with distinctive polychrome decoration of geometric style or for the objects of ornament and of varied use in amber, bronze and iron. Especially worthy of mention are some rich amber necklaces, likewise some spindles and an extremely abundant series of various types of bronze fibulae; these will facilitate the establishment of a more precise chronology for the burials and

for the evolution of the specific culture which is steadily being revealed by this, the first market center of the interior of Magna Graecia which has been, up to now, identified and systematically explored. Pl. 112, figs. 1, 2, show two phases of these burial equipments. The excavation continues in progress.

At PADULA (anc. CONSILINUM) the investigation continues, in the zone to the north of the Certosa, of an extensive group of Hellenistic-Roman edifices, perhaps to be attributed to a suburb of Consilinum. This undertaking has up to the present resulted in clearing the remains of various buildings, with a long series of rooms. Ascertaining their function is rendered difficult by the successive transformations which these quarters have undergone and the lack of coherence of those remains which up to now have been recognized and excavated; it is hoped however that continuance of the investigations will yield positive evidence for the interpretation of these enigmatical structures.

Equal interest attaches to the news from the Certosa of PADULA, where a specially equipped technical laboratory has been installed. Here it has proved possible to undertake the restoration of the valuable archaeological material that has been assembled as the result of the excavations conducted for three years past in the Valley of the Tanager and especially in the zone between Sala Consilina and Padula. A start has been made with the recomposition of the great quantity of vases in fragments, derived from the Oenotrio-Ausonian burial-grounds of Sala Consilina. There are some 10,000 objects, found in over a thousand graves, of the so-called *a pietre* type: objects which, owing to the collapse of the heaps of stones that covered the graves, have been recovered, not without difficulty, in fragments, and require a long and patient labor of restoration.

Thus the first nucleus of the Museo Archeologico della Lucania Occidentale has been constituted in the noble setting of that Certosa, one of the largest in all Europe. It is in fact due to this happy combination of circumstances that all the archaeological material which from time to time is derived from the excavations in the general area can be properly restored, systematized, and placed at the disposal of students in well-lighted and well-ordered store-rooms; while the tomb-equipments, more remarkable for artistic merit and cultural interest, have been promptly exhibited to the visiting public in the

bianco, Director of the Museo Nazionale of Salerno.

⁸ *AJA* 60 (1956) 392-93; 61 (1957) 377-78.

⁹ Information kindly supplied by Professor Venturino Pane-

halls of the great Museum, in specially designed showcases, the work of local craftsmen, which afford the maximum of visibility and enjoyment. (pl. 112, fig. 3.)

The undertakings more recently started in SOUTHERN CAMPANIA have already yielded results which give promise of important developments to come. In the pass of CAVA DEI TIRRENI, at the locality SAN CESARIO, the search for the most ancient centers of the Ausonians, Etruscans and Samnites in that area has revealed the first material indications of the existence of the Etruscan and Samnite MARGINA of Strabo 1.4.13: it is attested by the finding of fragments of Protohellenistic ceramics and of the remains of an important thermal establishment, including hypocausts. The results of this exploration have led the administrations concerned to plan an initial campaign of systematic excavation for the year 1958.

At NOCERA SUPERIORE also, a preliminary survey has already yielded tangible results: positive evidence for NUCERIA ALFATERNIA, the foremost city of Southern Campania. This includes the monumental remains of a grandiose public edifice of the time of the Roman republic and empire, and a valuable marble statue of Athena (pl. 113, fig. 4), which proves to be all the more interesting as it is an original work of classicistic art, even if Hellenistic in derivation; the inscription carved on its plinth, . . . S. OTHO, has suggested to Professor Panebianco that it may actually have been a dedication of the Emperor Otho.

The remarkable developments which have attended the enterprise of Dr. Paola Zancani Montuoro and Senator Umberto Zanotti Bianco at the sanctuary near the mouth of the River SELE (anc. Silarus) are already familiar from former reports¹⁰ and especially from the great publication by the able and fortunate excavators.¹¹ This undertaking continues with most gratifying results.¹² In 1957, six more metopes of the large, late archaic temple were found, one of the best preserved of which is here shown, pl. 113, fig. 5.¹³ At least five of the new-

ly discovered metopes represent pairs of maidens fleeing towards the right: ten more fleeing maidens to be added to the ten upon the five metopes previously known, twenty such figures in all, up to date. Dr. Zancani Montuoro is inclined to identify them as Nereids, and to interpret their attitude as flight from the sight of a conflict such as is mentioned in literature, perhaps Herakles and the *Halios Geron*, or Peleus and Thetis.

Meanwhile, the excavated area has been greatly extended, and further information has been acquired as to the history of the sanctuary. A part of the great temple suffered grievous damage, including burning, at the hands of the Lucanian invaders about the beginning of the fourth century B.C.; certain of its sculptured details are clearly due to restoration of this damage—they include a metope which perhaps shows the scene of combat from which the Nereids are fleeing, in which case it would have stood to the left of the long series; further harm was caused by an earthquake, possibly the one that wrought such damage at Pompeii in A.D. 62; finally, the remains were buried beneath the ejecta from the great eruption of Vesuvius of A.D. 79.

The activities in 1957 of the Soprintendenza for the Provinces of Salerno and Potenza were concentrated chiefly on PAESTUM.¹⁴ Here the excavations within the city area, financed by the *Cassa per il Mezzogiorno*, have revealed an extensive zone of the Roman stratum of occupation, comprised between the Porta della Giustizia, the Cardo and the Decumanus Maximus, in which, in addition to many buildings intended for the most part for dwellings, there is a large and impressive bath establishment.

The most interesting monument discovered during the year belongs to the necropolis; its finding was incidental to mechanized plowing, which led to its excavation in May 1957: a chamber tomb of the beginning of the Lucanian period, having its walls adorned with frescoes and containing a rich funerary equipment.¹⁵ The locality of the find is the

¹⁰ *AJA* 40 (1936) 185-87; 42 (1938) 441-44; 44 (1940) 392-94.

¹¹ *Heraion alla fave del Sele* (Rome) 1951ff.

¹² Dr. Paola Zancani Montuoro has most generously communicated not only the photograph but the proof-sheets of her forthcoming article in *AttiMGrecia*.

¹³ An instantaneous photograph taken before its restoration: the precarious, fragile condition in which these sandstone sculptures come to light necessitates a lengthy process of careful handling before they can receive their final installation in the

Museum of Paestum and be photographed in their final form.

¹⁴ Information generously supplied by the Soprintendente, Professor Pellegrino Claudio Sestieri, and Dottoressa Maria Sestieri Bertarelli. Former reports, *AJA* 56 (1952) 133-34; 57 (1953) 212-14; 58 (1954) 325-26; 60 (1956) 391-92; 61 (1957) 378.

¹⁵ For previously discovered painted Lucanian tombs, see *AJA* 58 (1954) 325; 60 (1956) 391-92, and especially Sestieri's full article in *RivistaArch* 5-6 (1956-57) 65-110.

Contrada Gaudo, about a kilometer north from Paestum itself. This locality was already known from the discovery of an aeneolithic necropolis,¹⁶ two monumental tombs or heroa,¹⁷ and numerous Roman burials *a cappuccina*.

It is between the heroa and the aeneolithic necropolis that the Lucanian necropolis is situated, of which an outstanding group of tombs has been found in recent years. Several of these belong to the common Lucanian type called *a cassa*, with gable roof. The present tomb, pl. 114, figs. 6, 7, although belonging essentially to this class, differs from the others in size and structure. Its dimensions are m. 2.30 w. x 2.95 l. x 2.30 ht.; the equipment and the wall paintings permit a dating in the fourth century B.C.

The walls are constructed of limestone blocks, regularly worked on the inner face and the joining surfaces, and left rough on the outside. On the inner surface, the north, south and west sides are entirely stuccoed and painted; the east end contains the door opening.

The deceased, his head to the east, occupied the southern half of the chamber. The gable roof was constructed by means of two series of counterpoised blocks; those which form the north and south side-walls are placed in two courses, and above them is a row of blocks set on edge, varying in length, but of the constant thickness of m. 0.25, which in the interior form a cornice with a projection of about 5 cm., adorned with a painted laurel branch set horizontally.

On the upper surface of the blocks of the cornice, there runs, for its entire length, a groove set at an angle, into which the slabs of the roof are firmly embedded. To the west, the closing is effected by means of slabs set on edge, projecting at the sides of the roof, and upon this base smaller blocks have been placed to close the pedimental triangle. The east end was closed by two large slabs, set vertically, against which two thick blocks were made to rest obliquely so as to serve as buttresses.

Upon the removal of the closing blocks, the aperture of the door appeared, capped by a large block m. 2.30 long and m. 0.87 high, hollowed out following the contour of a low arch, similar to the low arch of a postern belonging to the eastern side of the city walls of Paestum, to the north of Porta Sirena; this latter is formed of two blocks, in each

of which a half-arch is hollowed out. The dating of the tomb being certain, this element may justify an earlier dating than that hitherto accepted for this stretch of the city walls, which may go back to the Lucanian period.

The slab accorded the contour of an arch is stuccoed on the outside as well, and is painted white; the tomb is entered by means of a step m. 0.20 high. The floor consists of tamped earth.

As to the paintings: On the south side the scene is divided into two parts by a pomegranate suspended from above almost at the center of the wall; in the left-hand part near the entrance a scene of single combat is represented, between two contestants armed with spears (pl. 114, fig. 8). The one to the left is wearing a girdle and a species of fringed apron, probably leather, longer in front; his garb is in all respects similar to the usual costume of warriors, who however wear a breastplate over the girdle, whereas this man's torso is bare. His legs are protected by greaves, and his head by a helmet with neckpiece and cheekpieces, adorned with two black feathers. The metal objects are painted yellow, the conventional color for metal in all the Lucanian tombs already known, whereas the apron is red.

The other figure wears only a girdle and a helmet without feathers.

On the right-hand part of the wall there must have been two figures, but only one of them is preserved, and that only partially: a female figure clad in a peplos, represented in profile to the left, lacking the head and almost all the upper part of the body; one foot is raised and the left arm flexed, a pose familiar from other Lucanian paintings.

On the north wall is represented the Journey to the Lower World. At the extreme left a large pomegranate is suspended; next is a male figure advancing with a spear in his lowered right hand and two others held in his left and supported against his shoulder. He wears a short chiton confined at the waist by a bronze girdle, also half-boots. Next is the car of the deceased, drawn by two horses, their heads lowered in token of sadness. The deceased, as frequently in the Lucanian tombs, is represented as if alive; he wears a closely clinging short chiton, indicated only by a red edge about the neck and at the sleeves, while for the rest the figure might appear nude. The wheels of the sideless car

¹⁶ *AJA* 51 (1947) 287-89, pls. 71, 72 A; Sestieri, *Riv. di Scienze Preistoriche* 1 (1946) 245-66, 323-24; Paestum (Itin-

erario) (1950) 20-21, 46-48; and subsequent discussions.

¹⁷ *AJA* loc. cit., pl. 72 B; Sestieri, *NSc* (1948) 154-65.

are treated in foreshortening. The figure of a demon follows the car.

The left side of the chamber is the worst damaged of all: the only portion that is preserved is the lower right-hand half of the painting, in which may be recognized the hindparts with crupper, tail and hoofs of a large horse, proceeding slowly towards the left. The figure of the horseman upon his horse covered three courses of blocks of the structure from top to bottom, and was evidently the most important representation in the tomb, being on a larger scale than those upon the other sides.

The technique of these paintings is that already familiar from the Paestan paintings previously discovered: they are colored outline drawings. A simple contour line demarks the figures from the field, and inside this line there is, in the nude male figures, a slight tinting of pink. In the draped male figures the chiton is usually white; in the female figures the lines of the drapery are rendered in black; the bodies of the horses are conceived as masses of uniform color, within the outline drawing.

The poses of the figures are still very close to Greek prototypes of the end of the fifth or the beginning of the fourth century B.C. These are certainly some of the earliest Paestan paintings. The discovery has exceptional importance from the architectonic standpoint as well, because the other chamber tombs which came to light in the course of the past century have all perished, leaving only an imperfect record in drawings.

The extremely rich equipment of this tomb consisted of an alabastron of alabaster in fragments, a set of armor composed of helmet, breastplate, greaves and girdle; a strigil likewise of bronze; a considerable amount of bronze vessels, also of weapons and other objects of iron; a whip, a candela-brum and a couple of lead andirons; and several clay vases, two of which deserve special mention: (1) A large squat lekythos (pl. 113, figs. 9, 10), which for shape and size is very close to the famous lekythos of Herakles and the Hesperides, signed by

Asteas, in the Naples Museum.¹⁸ The present vase is not signed, but near each of the figures there is a Greek inscription giving its name. The painting represents the Purification of Orestes; it is derived from the first part of the *Eumenides* of Aeschylus. The action takes place in the sanctuary at Delphi; the protagonist is seated upon an altar; above appear the busts of the two Eumenides, Tisiphone and Megaira.¹⁹ Beside Orestes are the figures of Apollo, in the act of performing the purification, Latona and Artemis. (2) A large polychrome kylix with the figure of a woman, represented as Aphrodite, and flanked by Eros and Peitho.

Apart from Paestum, the Soprintendenza has conducted excavations on the acropolis of VELIA (Gr. ELEA), where splendid terrace walls in polygonal technique have been brought to light.²⁰ This excavation is being continued the present year, and the program includes also the exploration of the low-lying part of the city towards the sea.

At POTENZA, the Archaeological Museum has been reopened to the public, completely rearranged, and with its contents restored and suitably exhibited in chronological order from the prehistoric period down to Roman times. The excavation of the theater of GRUMENTUM is being carried further.²¹ The items of news from BRUTTIUM (mod. Calabria)²² maintain the interest of former years. At LOCRI,²³ the excavation of the sanctuary of Marazà has been carried further. Close to the south side of the altar of the Ionic temple a small earthen altar has been found, belonging to the archaic period, and behind this a deposit of skulls of sacrificed sheep, arranged in rows upon a layer of tiles.²⁴ In the course of clearing the area immediately to the north of the temples, a rich deposit came to light of painted fictile architectonic materials. This discovery recalls to some extent the other deposit found by Orsi to the west of the same temples;²⁵ but in the present instance the elements correspond typologically to those found in the filling of the Ionic temple²⁶ and inside the altar, and in some instances they actually join. At the same time, in the restoration of the

Calabria, who generously communicates information.

¹⁸ A. D. Trendall, *Paestan Pottery*, 20-23, pl. IV.

¹⁹ This appears to be by far the earliest transmitted mention of these Eumenides by name—antedating by more than three centuries Verg. *Aen.* 6.555 and 12.846: it now becomes obligatory to assume a still earlier literary usage.

²⁰ *AJA* 55 (1951) 178-80; 57 (1953) 214-15; 61 (1957) 378-79 (pl. 110, fig. 23, shows the polygonal wall as then uncovered).

²¹ *AJA* 58 (1954) 326.

²² Soprintendente, Professor Alfonso de Franciscis, Reggio-

²³ *AJA* 60 (1956) 393; *FA* 9 (1954) no. 2124; 10 (1955) nos. 1470, 1926. An illustrated general account of Locri, by Professor de Franciscis, is to appear in *Archaeology*.

²⁴ Cf. the Keraton at Delos: Plut. *Thes.* 21 and inscs.; N. M. Kontoleon, 'Ὁδὴ γὰρ τῆς Δήλου 45-47.

²⁵ *MonAnt* 29 (1923) 462-64; E. Douglas Van Buren, *Archaic Fictile Revetments in Sicily and Magna Graecia*, 28-31.

²⁶ *FA* 10 (1955) cited n. 23.

yields of this and the preceding campaigns, numerous fictile slabs have been reconstructed with meander motives, which evidently served as facing of the walls of the earliest temple at Marazà, and hence provide documentation of the highest interest. Moreover a wheel-shaped central akroterion with scale motive has been recomposed, this likewise archaic, and a fine series of simae. In the course of the excavation several elements of the stone decoration of the Ionic temple, including some lions' heads, were also recovered.

In a field of the Macrì estate, a few meters to the north of the former excavations, some soundings have been carried out which have brought to light a fine stretch of wall in large blocks, with indications of at least two periods of construction; from this stretch projects a short branch terminating in a circular structure. It was along this stretch that Orsi in his time recognized the course of the north wall of the city: the recent discovery might prove to be the confirmation of this, unless indeed future excavation should demonstrate that it is a question rather of the enclosing wall of the Marazà sanctuary.

Farming operations have rendered it possible to explore another portion of the burial area situated to the north of the city in the locality Lucifero, an area which had been already largely explored by Orsi²⁷ with great success. In the recently explored zone, some 150 by 200 m., about forty graves have been found, of the types usual at Locri—a *botte*, a *cappuccina*, a *vasca*—, set at various depths. Both incineration and inhumation rites are present. The equipment recovered is currently undergoing repair, hence it can only now be said that it consists of vases and other objects datable in the first half of the 5th century and in the 3rd century B.C. Especial interest attaches to some fictile *arulae* upon which a type of Acheloös is represented which is more recent than that already known upon other Locrian *arulae*.

At GIOIA TAURO (anc. MATAUROS), in the spring of 1956, a campaign of excavation was conducted in a necropolis, the existence of which had already been known through chance finds. The excavation was limited to a dozen or so trenches, in some of which large zones of burnt matter (*ustrinae*?) were found, with a thick layer of ashes and some traces of bones: within such zones small Corinthian vases

occur (*skyphoi*, *aryballoi*, *bombylioi*, etc.), some b.f. vases, and various spherical ollae. Some inhumation burials, with covering of tiles a *cappuccina*, can be dated in the first half of the fifth century B.C. At the margins of the explored zone, toward the sea, burials of the Roman period have come to light, formed of large tiles set a *cappuccina*, some bearing the stamp VITALIONIS. This necropolis exhibits many points of contact with those of Caulonia.²⁸ The material recovered has been installed in the Museo Nazionale di Reggio-Calabria.

Several years ago, mention was made²⁹ of developments at PALUDI, and in particular at the locality called CASTIGLIONE, which is identified with probability as "the Fourth Sybaris." A final campaign has been conducted at this important site. Especial attention was devoted to the exploration of the circuit of walls, with a view to completing the information regarding it. Thus there have been brought to light in the stretches A and B, marked on FA 9 (1954) 2016, plan B, flights of steps leading to the upper part of the wall, which appear to imply the existence of a sentry-walk. As to the necropolis, however, further soundings have failed to yield fresh elements for clarifying the problem of a possible retarded indigenous culture in the zone. In fact, it has been shown that the tombs of the fourth-third centuries B.C. have sometimes been superposed on those of the prehellenic type which would have to be dated between the seventh and the sixth centuries B.C. The investigations conducted with a view to identifying the indigenous village to which the necropolis must have belonged have had a negative result. The life of the city in the Roman period is documented also by Roman burials which have been found on the fringes of the indigenous and Greek necropolis.

REGGIO DI CALABRIA (anc. REGIUM). Between November 1955 and January 1957, as a result of building operations, a stretch of wall was discovered constructed of blocks showing quarry-marks and resting upon a solid foundation; it appears to pertain to the northern circuit of the city wall; it shows many points of technical similarity with the already known wall that defended the city on its seaward side, and this stretch likewise consisted of two curtains with inside bonding and filling. To the north of this discovery, some tombs came to

²⁷ NS 1911, suppl., 3-26; 1912, suppl., 5-18; 1913, suppl., 4-54.

²⁸ P. Orsi, *MonAnt* 23 (1914) 906-44.

²⁹ *AlA* 55 (1951) 183; 58 (1954) 326-27; 60 (1956) 393; see also *FA* 4 (1949) no. 1841; 5 (1950) 1623-24; 6 (1951) 1812; 8 (1953) 1611; 9 (1954) 2016.

light in a zone which already on various occasions had revealed the existence of an extensive necropolis. The burials were discovered at three points near to each other. The objects found included a clay coffin in the form of a stockinged foot, scanty vases, and two thin gold disks which evidently represent "Charon's obol."

We now proceed northwards up the peninsula from Rome.

The British School at Rome has continued its program of field-survey in Southern Etruria, concentrating its attention upon three areas in particular, the northern Ager Faliscus, the Ager Veientanus, and parts of the Fiora valley.³⁰ In the first area, many sites have been identified; the extent and elaborate character of the pre-Roman road system are noteworthy. In the second, attention is being devoted to the problem of the *cuniculi* and their purpose, also to the presence of an area of intensive Roman settlement to the north of Veii. In the third district, special interest attaches to the identification of the citadel at Poggio Buco as a small Villanovan hill-fort, later expanded to become the Etruscan city.

In addition to the field-survey, "On behalf of the Superintendency of Antiquities for Southern Etruria a section was cut through the ancient defences of Veii beside the north-west gate. The section revealed a massive earthen rampart incorporating a wall of large, roughly squared tufa blocks, which served both as an internal revetment for the rampart and as a footing for the now destroyed wall that crowned it. Rampart and wall date from the fifth century B.C. and overlie the remains of earlier occupation."

The burial areas of Southern Etruria appear inexhaustible, and with the reclamation of land more sites and tombs are being steadily revealed. The discovery however of a fresh area of this sort at the 27th kilometer of the Via Flaminia was due to a fox, who sought refuge in a hole in the ground in order to escape the attentions of a shepherd; the man's persistent pursuit of the animal was rewarded by the finding of a tomb equipment of the fifth century B.C., which eventually, through the mediation of the constabulary, reached the Soprintendenza for Southern Etruria, thus directing attention to the site.³¹

³⁰ Information kindly supplied by the Director, Professor J. B. Ward Perkins. Former report, *AJA* 60 (1956) 394. See *BSR* 25 (1957) 67-203, pls. 17-47.

³¹ *Il Tempo*, Dec. 20, 1957.

³² *AJA* 61 (1957) 381.

³³ The topography of the area has now been treated by F.

In last year's "News Letter," attention was called³² to some chance finds at SANTA SEVERA, ancient PYRGI, the northern of the two ports of Caere (mod. Cervetri), which had suggested the advisability of systematic official excavations.³³ These have already been initiated, with most satisfactory results and the promise of important developments, as an undertaking adequately staffed and financed, with a programme set for a series of years, by the Istituto di Etruscologia e di Antichità Italiche of the University of Rome (directed by Professor Massimo Pallottino) in collaboration with the Soprintendenza for Southern Etruria (Soprintendente, Professor Renato Bartoccini).³⁴ Our pl. 115, fig. 11, shows the landscape: the mediaeval castle and hamlet, built upon the site of the Roman colony of Pyrgi with its well-known polygonal walls, are at the extreme left in the middle distance; the position of the two already excavated sites is visible somewhat nearer and towards the middle, on and near the shore some 250 meters to the southeast of Santa Severa itself. These sites are to be envisaged in a broader setting, the exploration of a wide area: the first task of the present undertaking was to plot the whole extent of the land lying inwards from this stretch of coast, recording all surface indications of ancient remains, with a view to excavating, methodically and in successive campaigns, at specific locations on the "grid." When this preliminary survey had been accomplished, the two points already known from chance finds, one actually on the shoreline, the other somewhat inland, were stratigraphically excavated. The former yielded a network of impressive cut stone foundations partly lying in place on dry land (pl. 115, fig. 12), partly recognizable as extending below the surface of the water, and clearly belonging to some important public edifices, probably of a cult nature; the latter site, further inland, proved to be devoid of structural remains but instead to contain a great dump of roof-tiles and fragments of terracotta including the revetments and sculptural adornment of at least two temples. Our pl. 116, figs. 13 and 14, show two of the most remarkable pieces of late archaic sculpture so far discovered: the bearded head was one of the chance finds from near the water's edge which first attracted attention to the

Castagnoli and L. Cozza, in *BSR* 25 (1957) 16-21.

³⁴ Professor Pallottino has generously communicated the proofs of his preliminary report, which is to appear shortly in *ArchCl* 9 (1957) 206-22, pls. 89-100, and also the four photographs.

site and to the possibilities of this general area, but the head of Athena was extracted from the dump at the inland site; the crudeness of execution of these works is attributable to local craftsmanship, although the repertory is Greek. The finds of terracottas included some rarities, one with a negro's head, another a male human figure with the head of a rooster. But still more remarkable results were derived from the patient study of this mass of material when it had been taken to the workrooms at the Villa Giulia in Rome: for it developed that many of these fragments, including the two here reproduced, pertained to a pedimental representation of combat in the tradition not of Etruria but of the Greek mainland, either a battle of heroes presided over by Athena or else a conflict of gods and giants.

The strong Greek influence thus manifest at this exposed point on the Etruscan coast is in harmony with certain earlier finds at Cervetri itself, and confirms, if that were required, the assumption that not only the port of Pyrgi but the sanctuary of Leucothea or Eilithya, repeatedly mentioned in the ancient writers, was in the neighborhood of Santa Severa. At the famous cult-centers of Greece itself, more than a single divinity possessed his own particular shrine; and here too, something similar appears to have been the case; it is implied not only by the varied nature of the systems of architectural adornment represented by the terracotta fragments, but also by the occurrence, Professor Pallottino states, of Etruscan letters painted on two clay bowls apparently of local fabric of the late sixth century B.C., of the name *unial*, the genitive of *Uni*, the Etruscan Juno.

The new methods of exploration devised by the Fondazione Lerici of Milan and described a year ago²⁵ have been further developed, and their application has been continued on a larger scale and with admirable results at Cervetri, Tarquinia and Vulci.²⁶ At Tarquinia it has led to the discovery of another early painted chamber tomb; its ruinous walls rendered it necessary for the Istituto Centrale di Restauro to detach the painted wall-surfaces; the tomb is to be reassembled in the Museum of Tar-

quinia. Its representations have to do with a variety of athletic and other sports; the best-preserved side wall shows a spirited race between two-horse chariots.

The undertaking of the French School of Rome at Bolsena (anc. Vulsinii)²⁷ has been carried further along the lines of previous campaigns. The evidence as to the protohistoric and historic occupation of the site is becoming more and more precise. On the summit of La Capriola, M. Bloch has continued to uncover the "Appenninic" village of the close of the Bronze Age (the first two centuries of the first millennium B.C.), with its enclosing wall, a primitive road leading to a building of uncertain purpose, and some hut foundations cut in the rock or made of stones set in place, some of these carrying signs which recur at other Italic sites of the same epoch. At the foot of the hill, three more *fossa* burials have been discovered, belonging to the Villanovan necropolis, and bounded by numerous pebbles: they contained colored "impasto" vases, iron weapons, and engraved fibulae of bronze. At the present town of Bolsena itself, close to the mediaeval castle, the construction of a garage has revealed the southern extremity of the rampart of the Etruscan city, thus confirming M. Bloch's conjectural plan of 1946-47. This wall is preserved to a height which reaches 5 m., and shows very many graphic signs, the letter T appearing to indicate to the workmen the blocks to be set head into the wall.

The news from various sites in Northern Etruria as administered by the Soprintendenza with residence in Florence maintains the interest of former years.²⁸

At ASCIANO (Prov. of Siena), an Etruscan necropolis has been discovered consisting of chamber tombs excavated in the travertine with burials by either inhumation or cremation extending from the fourth to the first century B.C., and with rich burial equipment.

At VOLTERRA, in the Roman theater, in the highest part of the cavea, a crypt has been discovered, in which two broad flights of stairs are situated which formed the means of access to the theater; in front

²⁵ *AJA* 61 (1957) 380-81.

²⁶ *ILN* no. 6205, May 10, 1958, 774-75; Ing. Carlo M. Lerici's summary of a report of the Fondazione Lerici; later information, *Il Messaggero*, April 18 and 19, 1958.

²⁷ Information as to the French School's campaigns at Bolsena and Megara Hyblaea has been kindly supplied by the Director, Professor Jean Bayet. Former reports on Bolsena, *AJA* 55 (1951) 184; 58 (1954) 327-28; 60 (1956) 395; 61 (1957) 381.

²⁸ Information kindly supplied by the Soprintendente, Professor Giovanni Caputo, and Dr. Alfredo De Agostino, Ispettore.

Students working in Florence in the future will be grateful for an innovation; the two libraries of the Istituto di Studi Etruschi ed Italici and of the Soprintendenza have now been installed, side by side, with one entrance on Via della Pergola no. 65.

of one of these, a large-scale marble head of Augustus was found.

At POPULONIA, in the Podere San Cerbone, a tomb in the form of a small temple was found; it was structurally intact but had been rifled in antiquity; it is datable in the fifth century B.C. (pl. 116, fig. 15).

At POLVEROSA (Prov. of Orbetello), in October 1957, a small Roman necropolis of the third and second centuries B.C. has been explored: the graves were constructed of large tiles; in one of them was found, together with other objects, an attractive little gold necklace (pl. 116, fig. 16), and in another an interesting "bottle" of terracotta with representations in relief of Dionysiac and hunting scenes (pl. 116, fig. 17).

At ROSELLE (anc. Rusellae, near Grosseto on the Via Clodia—probably a member of the Etruscan League of twelve cities), some tombs which had been excavated in the last century and then abandoned have been freshly cleared. In several of these, a few remains of the original burial equipment of the seventh century B.C. have been found, also traces of re-use, and interesting details of construction have been revealed.

At Rusellae also, the German Archaeological Institute in Rome initiated in October and November of 1957, under Professor Rudolf Naumann, who kindly supplies information, a survey of the territory together with minor soundings at the city wall and in the interior of the town. Two parallel terrace walls were found, between which there was a filling of numerous fragments of roof-tiles and pottery, obviously derived from buildings that had once stood upon the terrace. The slabs bear in part plastically executed palmettes with rosettes, guilloche, and tongue pattern (pl. 117, fig. 18), in part only painted decoration. Together with an antefix in the form of a female head (pl. 117, figs. 19, 20), they belong to the archaic period. Outside the terrace walls, moreover, roof-tiles of the classical and Hellenistic time were found, testifying to a lengthy tradition of buildings at this site.

It is the Institute's intention to conduct a survey of the city wall, which is still preserved for almost the entire circuit of three kilometers, to investigate its gates, and also to carry further the excavations on the terrace.

Interesting news from the Soprintendenza for Eastern Sicily has been generously communicated

by Dr. Gino Vinicio Gentili. We begin with SYRACUSE,³⁹ and its ancient quarter of Tyche.

In July 1956, digging for sewers in the Borgata S. Lucia disclosed the presence on the Via Bignani of two Late Roman *hypogaea*, which were then explored by Dottorressa Maria Teresa Currò of the Soprintendenza. They were quadrangular in plan and comprised many burials of the type *a mensa* with *arcosolium* or a simple trench in the earth, also ossuaries consisting of clay amphorae or monolithic receptacles; especial interest attaches to the eastern *hypogaeum*, at the center of which was a pillar preserving the traces of a decoration in red bands. In fact, the rock-cut niche of one of the *mensa* burials inserted in its walls shows a decoration in the unusual technique of glass-paste mosaic:⁴⁰ upon the blue and dark-green field extend the spirals of vine tendrils, enlivened by the presence of some birds. The niche has now been detached from its place and is preserved in the antiquarium of the Catacombs of San Giovanni. The material found in the two *hypogaea* includes lamps typical of the fourth century of our era.

Also in the Tyche quarter, during building operations on the southern edge of the present Viale Teocrito, archaeological remains have been recognized which extend in time from the archaic period—the presence of a tomb *a fossa* dug in the native rock to the depth of m. 4.10 below the present ground level—down to the fourth century B.C. and the Hellenistic period—remains of housewalls with pavements of tamped earth and *signinum*; remains of a circular kiln, near which is a cistern, from among the refuse in which clay fragments of the fourth and third centuries B.C. and parts of large busts have been recovered, showing Kore in the type already known from Agrigentum, but with considerable traces of polychromy—together with the successive rebuildings representative of the renewed occupation of the site by dwellings beginning with the Augustan age: these latter include decorative mosaics with various designs, mostly in black and white.

In the meanwhile, attention has been devoted to the neighborhood of the Roman Amphitheater, with its portico and the remains of Hellenistic dwellings, and the evidence for late Roman and Byzantine occupation; and the northern end of the great Altar of Hieron II has been cleared of encroachments.

³⁹ *AJA* 56 (1952) 138; 57 (1953) 217; 58 (1954) 330.

⁴⁰ See J. S. Ward Perkins and J. M. C. Toynbee, in *Archaeol-*

ogia 93 (1949) 179-80; Jocelyn Toynbee and John Ward Perkins, *The Shrine of St. Peter and the Vatican Excavations*, 73-74.

Dottoressa Currò has also conducted a series of explorations at the Scala Greca, on the northern side of Epipolai towards the sea, which included the finding of a small stone quarry the walls of which were carved into niches containing images of the *heroes*, a cult which is attested likewise by the presence of small vases and lamps of clay datable in the advanced Hellenistic age; also the discovery of an ancient conduit. The lower courses of the walls of Dionysios I were unearthed (pl. 118, fig. 21): they have been uncovered for long stretches on the spur of the hill which approaches the sea at the eastern extremity of the semicircle described by the edge of the terrace of Epipolai, which is situated to the northeast of the national highway for Catania.

At MEGARA HYBLAEA, the French School of Rome is continuing its very fruitful undertaking.⁴¹ MM. G. Vallet and F. Villard have completed the clearing of the Hellenistic circuit of wall. The examination of the fill of its foundations and of the dwellings installed upon its remains has resulted in restricting its brief existence between the middle of the third and the beginning of the second centuries B.C.: more precisely, the historical occasion of its construction and of its demolition can be none other than the reconquest of Eastern Sicily by Marcellus (214-13 B.C.). This deep clearing has yielded some re-used architectural fragments, some archaic pottery, and a large terracotta arula representing Ulysses and one of his companions in the act of fleeing from the Cyclops' cave. Meanwhile, the expropriation of the parcels of land within the circuit of wall is finally opening a vast city area to excavation. From the central gate of the long western wall, a Hellenistic street has been followed for some fifty meters; it leads to a more spacious area, which might be the Agora; in any case, the substructions here are not those of private dwellings: a portico (?) 45 m. long by 8 m. broad appears to open out upon the south. It is at this point that work is to be resumed the present year.

CATANIA continues to yield occasional finds.⁴² On

Via Antico Corso, an underground burial chamber of the Late Roman period has been found: one wall was taken up by the entrance stairway, the others showed four *loculi* with their cinerary urns still in place; in the vicinity were the remains of yet later buildings of uncertain function. The systematization of the great pavement mosaic which was discovered several years ago in Via Dottor Consoli is progressing: it is to occupy one of the ground-floor halls of the Museo Comunale of the Castello Ursino.

The name of HALAESA (Prov. of Messina) is familiar from reports of previous years;⁴³ our pl. 118, fig. 22 shows a detail of a mosaic pavement which was found in the Roman villa as early as 1912 and with its fellows was conveyed to the Museum of Messina, where it has finally received adequate attention at the hands of the technical personnel of the Soprintendenza. The sumptuous villa was adorned with three types of mosaic floor, characteristic of the second half of the second century and the first half of the third century of our era, but remarkable for the free use of polychromy and occasionally of glass paste.

At GELA,⁴⁴ the actual work of excavation has been retarded owing to the necessity of concentrating on the preparation of the Museum which is to be inaugurated shortly. Notwithstanding, in 1956 an important discovery took place about 100 m. to the south of the Greek house that had been found in 1955: a Greek establishment of public baths of the end of the fourth century B.C., the only instance known up to the present in Sicily, and, in view of its period, of the greatest importance for the Greek world in general. The set basins, made of stuccoed concrete or of terracotta (pl. 117, fig. 23), are arranged next to one another in two groups: the first group, placed around a pavement of terracotta slabs, is well preserved, the second, of a circular form with the basins set radiating, is badly damaged; to the east of this room with the basins there was a second room with a hypocaust, probably for vapor baths. The excavation was still in progress in the

⁴¹ *AJA* 55 (1951) 187-88; 58 (1954) 330; 60 (1956) 397-98; 61 (1957) 383.

⁴² Communicated by Dr. Giovanni Rizza, Director of the Istituto di Archeologia "Guido Libertini" of the University of Catania. Previous reports, *AJA* 58 (1954) 330; 60 (1956) 397.

⁴³ *AJA* 57 (1953) 217; 59 (1955) 309; 61 (1957) 382-83. A brief report on the first three years of excavation, by Dr. Gianfilippo Carettoni, has appeared in *BdA* 42 (1957) 319-24.

A special fascination attaches to the investigation of the layout of this town and its territory, by reason of the list of allotments with their boundaries which has partially survived on the

marble slab, or two slabs, recorded in *IG* XIV 352. The survey made extensive use of perishable landmarks, olive trees or stakes, but only in parts of its course; elsewhere, and especially in its latter part, it referred to watercourses, towers, etc., some of which might still be recognizable; and Dr. Carettoni has already noted the mention of walls, temples and other edifices, also streets.

⁴⁴ *AJA* 59 (1955) 310-12; 61 (1957) 384-85. Current information kindly supplied by Drs. Dinu Adamesteanu and Piero Orlandini.

Spring of 1958. This establishment forms part of the dwelling quarter which occupied the western sector of Gela after the recolonization under Timoleon (339 B.C.) and was destroyed by Phintias in 282 B.C.

In the country inland from Gela, discoveries of early indigenous settlements have continued, especially in the northern part of the Province of Caltanissetta, where Castellazzo di Marianopoli, Balate, Pizzo del Re show such centers which originated in the prehistoric age and became Hellenized in the course of the sixth and fifth centuries B.C. The fortified center of Castellazzo has yielded local ceramics imitating Corinthian products, of the type of the wares of the neighboring Polizzello. These new centers, together with those already known at Monte Raffae, Polizzello itself, Terravecchia and Cozzo Mususino, form a ring about a river valley which connects them with the Chalcidian culture of Himera on the northern coast rather than with the Rhodio-Cretan tradition of Gela and Agrigentum.

In the sector of Feudo Nobile, 15 km. to the east of Gela, a rich zone of prehistoric stations of the First Siculan Period has been discovered: in the same zone, on the banks of the River Dirillo (anc. Achates), has been found the votive deposit of a rustic sanctuary the life of which is attested from the middle of the sixth to the close of the fifth century B.C. The material consists of statuettes, both imported and of local fabric, small vases, painted ceramics, etc.⁴⁵

The news from the western corner of Sicily⁴⁶ serves as a reminder of the wealth of material there awaiting the fuller scientific use of the excavator's spade, and its importance for both the Punic and the Roman periods and cultures. At MOTYA, soundings conducted by an Oxford group have pointed the way to possible future campaigns. At MARSALA (anc. Lilybaeum), the construction of new buildings has led to more fixed points in the plan of the ancient city being ascertained. The finds also among the

Roman villas are mostly incidental to building operations. Some Punic tombs however have been excavated at Marsala, recorded in designs and photographs, and their contents preserved for installation in a museum shortly to be opened. Capo Boeo itself, however, the center of archaeological interest, still awaits excavation.

SARDINIA, with its, at first sight, almost self-contained culture, has claimed increasing attention in recent years, partly because our most modern sculptors have felt an affinity with the nuragic art. Apart from this, the island has been assuming a position of its own in the development of Mediterranean culture. The nuragic culture has been steadily emerging in a clearer light as the result of the cumulative labors of the Italian archaeologists. An outstanding site is BARUMINI, in the central area of the island (Province of Cagliari), where Professor Giovanni Lilliu conducted a series of campaigns of excavation from 1951 to 1956 at the well-known huge *nuraghe* of SU NURAXI and its surrounding village, the results of which have now been presented by him in an illustrated article.⁴⁷ Successive periods are well represented: a massive central tower, now dated by the radio-carbon method not later than 1070 B.C.; then the addition of four smaller peripheral towers with a curtain wall, a phase extending in time from the end of the ninth to the middle of the eighth century B.C.; finally, the reinforcing of these structures, the addition of an outer wall and the erection of the watchtower on the central *nuraghe*, a period which was terminated by dismantling at the hands of the Carthaginians towards the end of the sixth century B.C. In the course of the ages, a considerable village had sprung up about this nucleus, and after the Carthaginian massacre the survivors returned here and the settlement continued to be inhabited, though in a state of decay, down to the time of Augustus. Precise information as to the successive phases of culture has been

⁴⁵ The already extensive bibliography of this Soprintendenza (AJA 59 [1955] 310; 61 [1957] 384) has received important additions: the following, previously announced as about to appear or to be continued, are now accessible: D. Adamesteanu, "Nouvelles fouilles et recherches à Gela et dans l'arrière pays," conclusion, *RA* 44 (1957) 147-80; id., "Vasi figurati di Manfria di età Timoleontea," *Miscellanea Libertini* (1958) 24ff. P. Orlandini, "Nuovi acrotteri fittili a forma di cavallo e cavaliere dall'acropoli di Gela," *Misc. Libertini* 117-28; id., "Tipologia e cronologia del materiale archeologico di Gela dalla nuova colonizzazione di Timoleonte all'età di Ierone II" (parte I), *ArchCl* 9 (1957) 44-75 (part II is to appear). The following articles have appeared: D. Adamesteanu, "Osservazioni sulla battaglia di Gela del 405 a.C.," *KOKAΛOΣ* 2 (1956) 142-57, 3 figs.;

id., "Butera, a Sicilian Town through the Ages," *Archaeology* 10 (1957) 76-85; P. Orlandini, "Storia e topografia di Gela dal 405 al 282 a.C. alla luce delle nuove scoperte archeologiche," *KOKAΛOΣ* 2 (1956) 158-76; id., "Scavi, ricerche e scoperte nelle province di Agrigento e Caltanissetta," *Nuova Antologia* (1957) 511ff. To appear: D. Adamesteanu, "Scavi e scoperte dal 1951 al 1957 nella Provincia di Caltanissetta," Parte I, *MonAnt* 49 (1958) 204-688.

⁴⁶ Kindly communicated by Prof. Dott. Gioacchino Aldo Ruggieri, Ispettore Onorario at Marsala: his own account of Motya and Lilybaeum, in *Archaeology* 10 (1957) 131-36, gives the general setting.

⁴⁷ ILS no. 6196, March 6, 1958, 388-91.

stratigraphically recovered: in the words of the fortunate excavator regarding his results, "they have provided definite and fixed horizons on which to base further research in more remote Sardinian antiquities. And to Mediterranean prehistory this new revelation of a people remote indeed in time but so close and familiar to us in spirit brings new evidence of a dynamic creative spirit, revealed in cultural achievement and historical activity."

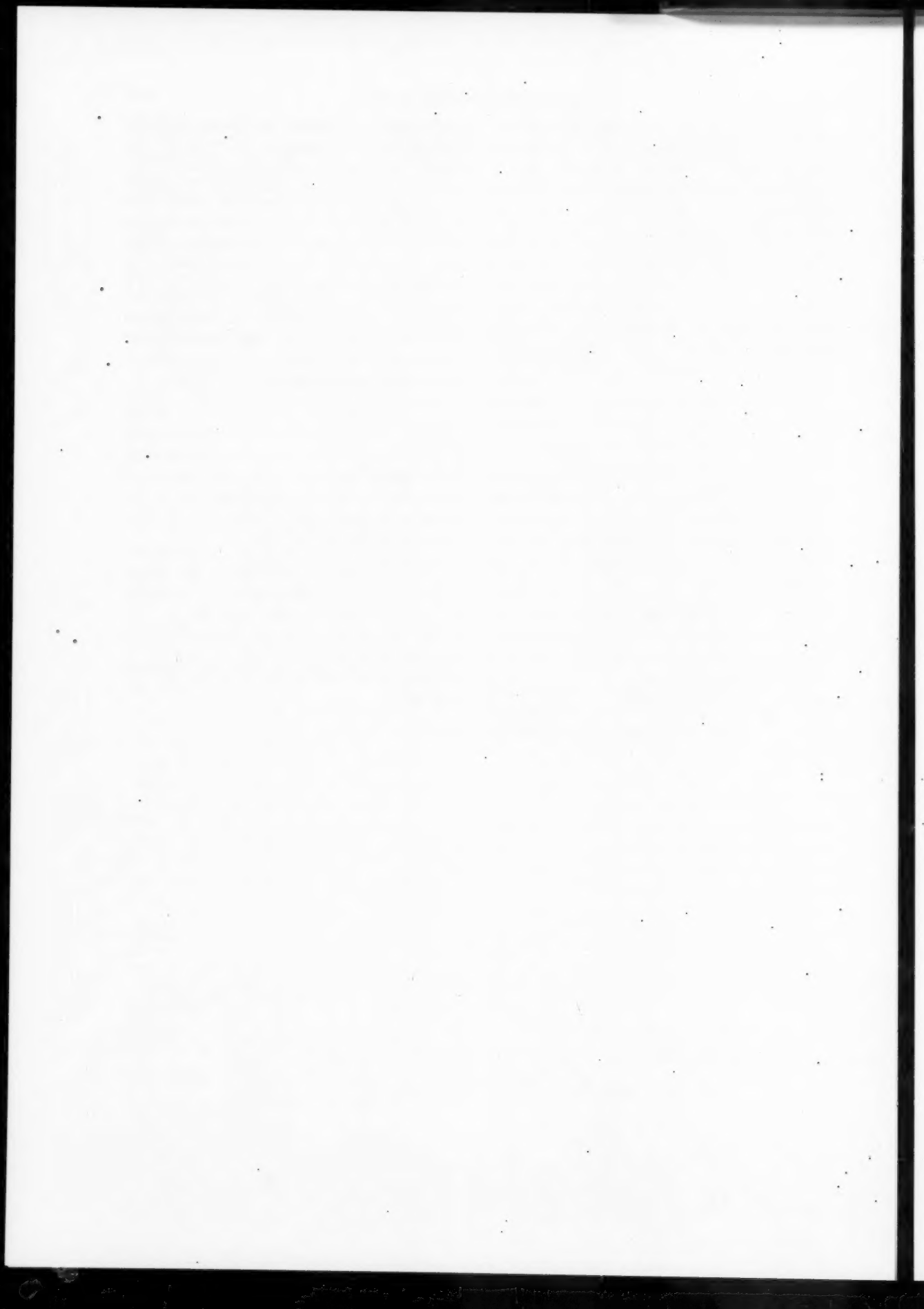
The main characteristics of this mighty fortress and its dependent village appear in our pls. 118-119, figs. 24-31, which with their carefully prepared legends have been generously presented by Professor Lilliu.

Since 1955, Professor Lilliu's position has been that of Professor at the Istituto di Antichità Sarde in the University of Cagliari; his successor as Soprintendente is Professor Gennaro Pesce; the two distinguished experts in Sardinian antiquities have collaborated, especially in their important publications. Meanwhile, in 1955 and 1956 in particular, Professor Lilliu's personal explorations have continued to yield abundant evidence for the early cultures of the island: at CORONGIU ACCA on the mountains of Villamassargia (Province of Cagliari), together with the skeletons of people buried in a crevice of the rock, two small fragments of bronze and numerous vessels of terracotta, all to be assigned to the First Age of Bronze of the zone of Iglesias and Sulcis; at the large grotto of the Sue Marino at CALAGONONE DI DORGALI-NÚORO, the remains of a hearth with bones of animals mingled with the

ashes, as well as fragments of early pottery; at Su Marináio, at CALA ILÚNE, to the south of Cala Gonone, in the territory of Baunéi, another grotto, which it proved possible to excavate stratigraphically, and which included a prehistoric stratum with remains of stone artifacts and rude cooking utensils, and an enormous quantity of various kinds of mollusks—a cave close to the seashore, frequented by folk who were food-gatherers and hunters, retaining a retarded culture of neolithic origin well down into the Age of Bronze and parallel in time to the culture of the *nuraghi*. Equal importance attaches to Professor Lilliu's discoveries in the caverns of Monte Maiòre and Su Idighinzu near THIESI (Prov. of Sassari) and the grotto Ulàri of BARUTTA (Prov. of Sassari). Finally, the rock-shelter of Cala di Vela Marina upon the islet of SANTO STEFANO belonging to the archipelago of La Maddalena, in a homogeneous stratum, contained artifacts and remains of fauna which, Professor Lilliu believes, may be considered, in the present state of knowledge, the most ancient of all those in Sardinia.

The Roman press announces an important underwater discovery off the coast of the island of SPARGI, a member of the Maddalena archipelago: a Roman ship, in a fair state of preservation, together with its cargo, datable about 100 B.C. The exploration is the result of a program initiated by the Istituto Internazionale di Studi Liguri, directed by Dr. Nino Lamboglia.

ROME



NECROLOGY

ARNOLD VON SALIS, born in Liestal, County of Basel, July 29, 1881, died an emeritus professor of the University of Zurich, April 3, 1958. He is survived by his wife, Helen, born Von der Mühl, one son, three daughters and two grandchildren.

After graduating from the Gymnasium in Basel, he attended the universities of Basel, Bonn and Berlin, getting an all-round education in the classics and history of art. The main academic teachers who influenced his own production were, in archaeology: Hans Dragendorff in Basel and Georg Loeschke in Bonn; in history of art: Heinrich Wölfflin in Basel and Berlin; in classical philology: Erich Bethe, Jakob Wackernagel and Alfred Körte in Basel, Franz Bücheler and H. Usener in Bonn, Ulrich von Wilamowitz in Berlin. He received his Ph.D. in Basel in 1905, with a Latin dissertation on the vestiges of Doric plays in Attic Comedy: *De Doriensium ludorum in comoedia Attica vestigiis*. This remained his only philological investigation, but his education in the ancient languages was important for him, as for all archaeologists.

Von Salis began his archaeological research with an article on "Splanchnoptes" in the *AthMitt* 31 (1906) 352-58. In 1905-07 he traveled in Greece and Asia Minor. He reported on Wiegand's excavations in Miletus and Didyma in the *Neue Jahrbücher für das klassische Altertum*, (1910) 103-32. There are some excellent and important articles in the *Jahrbuch d. d. Inst.*: on the satyrplay vase in Naples, 25 (1910) 126-47; on the Kybele of Agorakritos, *ibid.*, 28 (1913) 1-26. Being for a short time an assistant in the Pergamon Museum at Berlin, he wrote his first book: *Der Altar von Pergamon* (1912), a contribution to the explanation of the Hellenistic baroque style in Asia Minor. This is still the best exposition of the peculiarities and innovations found in the gigantomachy and the Telephos friezes of the great Altar of Eumenes II. This writer has gratefully made use of it in *The Sculpture of the Hellenistic Age*, 114ff.

In 1908 von Salis became assistant to Georg Loeschke, and in the following year lecturer in Bonn University. Here this writer made his acquaintance and she remained in touch with him and his work for the rest of his life. He became professor extraordinary in Rostock in 1910, and in 1916-29 he was a full professor in Münster. Here he wrote *Die Kunst der Griechen*, a handbook dealing with the history of Greek art from the second millennium to the time of Roman domination. The 68 illustrations include all periods from Cretan to Augustan. This readable book appeared in four editions: 1919, 1922, 1924, and 1953, the last one with corrections, published by Erasmus, in Zurich. There appeared also a Spanish translation: *El Arte de los Griegos* (Madrid 1926). The corrections are due to more mature views, already used in von Salis' *Kunst des Altertums* in *Die sechs Bücher der Kunst*, ed. A. E. Brinckmann, I (Berlin-Neubabelsberg 1924). In a letter to me, dated April 30, 1923, von Salis

expresses the hope that I shall find some things better and truer than in the *Kunst der Griechen*. He thought, rightly, that he had become more many-sided and more restrained in his style. The arrangement is not historical, but in a long introduction von Salis deals with the cultural conditions, the sources of the history of art, the part played by different nations, and only in pp. 58-128 with the development, the chance of conceptions, and the mastering of forms in the different periods. In 1926 he published *Das Grabmal des Aristonantes*, Berlin, *Winckelmannsprogramm* No. 84. After comparing it with many other monuments of the fourth century he comes to the conclusion that this tomb monument must belong in the time of Alexander the Great, as it adopts many features of the later fourth century.

In 1929-40 von Salis was professor in Heidelberg. Here he wrote an important article about the gigantomachy represented on the shield of the Athena Parthenos (*Jahrb. d. d. Inst.* 55 [1940] 90-169) of which he gave a convincing reconstruction. He wrote many book reviews, always with some relevant observations, and contributed to several of the many "Festschriften" which have appeared in Germany. *Theseus und Ariadne* was the Festschrift of the Archaeological Society (Berlin 1930) 1-47. He wrote on Sisyphos in the *Corolla Ludwig Curtius* (1937) for Curtius' sixtieth birthday, pp. 90-169; on classical composition in *Concinnitas* (on contributions to the problem of the classic) *Heinrich Wölfflin zum 80. Geburtstag* (Basel 1944) 175-212; "Imagines illustrium" in *Eumusia, Festgabe für Ernst Howald zum 60. Geburtstag* (Zurich 1947) 11-29; "Vermächtnis der antiken Kunst," zur Jahrhundertfeier der Archaeologischen Sammlungen der Universität Heidelberg (1950) 219-32. In the *SBHeidAk* he published *Neue Darstellungen griechischer Sagen I Kreta*, 1935/36 Abh. 4 and II *Picenum*, 1936/37, Abh. 1. In the first von Salis proves that the pictures on vases with Theseus and Ariadne show a continuity of tradition from the Cretan to the geometric period. In the second he gives to some primitive-looking tombstones from Picenum on the west coast of the Adria, assumed to be "nordic," the convincing date of the fifth century and explains them as representing funeral games, in a degenerate style which had come from the east via Illyria to northern Italy.

In 1940 von Salis left Germany and returned to his homeland, Switzerland. He reorganized the Archaeological Institute of the University of Zurich, attracted many students, and after the death of Ernst Pfuhl also accepted a lectureship in Basel from 1941-1948. He taught in Zurich until 1951, when he had reached the retirement age. During this strenuous period of teaching he published a small book, *Klassische Komposition*, a reprint from the Wölfflin Festschrift "Concinnitas" (Basel 1944) and a large book, *Antike und Renaissance* (Erlenbach-Zurich 1947). Both dealt with the connections between ancient and Renaissance art: the first with

the composition of the Parthenon pediments and of Raphael's Mass of Bolsena; the second with the paintings in the golden House of Nero and the grotesques in the Vatican; the ancient sources for the entombment of Christ by Raphael; the battles of Alexander and of Konstantine; the punishment of children in a Pompeian wall-painting and in the school of Tagaste by Gozzoli; the influence of the Laocoon and of the three graces on later artists; the torso of Belvedere and pictures of Herakles in the Renaissance; the Villa Farnesina of Antiquity and the later Farnesina. Von Salis emphasizes everywhere that the relation of the Renaissance to ancient art is not a revival of ancient art, but the influence of what the Cinquecento knew about the earlier periods. This knowledge was limited to Hellenistic and Roman art, with very little knowledge of classical art which, like archaic art, was not yet rediscovered. The greatness and clarity for which artists of the Renaissance longed they found in ancient architecture, painting and sculpture. Thus von Salis rightly concludes that nowhere in the Renaissance is there simple reproduction of ancient works of art, except in secondary accessories.

After his retirement von Salis continued to produce many book reviews. He also contributed "Bacchus redivivus" to another Festschrift, for the 60th birthday of Bernard Schweitzer: *Neue Beiträge zur klassischen*

Altertumswissenschaft (Stuttgart 1954) 345-51, an interesting reconstruction of the central wall niche in the peristyle of the Casa di Menandro: Dionysos in the center flanked by comic and tragic masks and Menander on one side and a tragic poet, perhaps Euripides, on the other. An outstanding achievement of the seventy-five year old scholar is the *Winckelmannsprogramm* No. 112 (Berlin 1956) thirty years after his first No. 84: *Löwenkampfbilder des Lysipp* includes an excellent survey of the main types of Herakles wrestling with the lion and the reconstruction of the group by Lysippos, brought from Alyzia to Rome. The last paper known to me by von Salis is one on ancient burial rites: "Antiker Bestattungsbrauch," *MusHelv* 14, (Basel 1957) 88-99. It deals with the custom of binding a ribbon around the chin of the dead to prevent the opening of the mouth.

The last works of von Salis testify to his undiminished mental faculties; he died in the middle of fruitful work. He was an excellent scholar, particularly for classical and Hellenistic art and its survival in later periods. He was an upright and manly person, always ready to help people who needed it. He will live on in his work and in the memory of his many friends.

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BOOK REVIEWS

THE NEW OXFORD HISTORY OF MUSIC. VOL. I: ANCIENT AND ORIENTAL MUSIC, edited by *Egon Wellesz*. Pp. 530. Oxford University Press, London, 1957. \$9.50.

Most of the ten volumes which are planned for the new Oxford History of Music will be concerned with some particular period or some special topic. This present volume is more of a medley with no defined cultural, geographical or historical unity, but for most readers it will be all the more fascinating because of its almost bewildering variety. The contributors, being acknowledged experts in their fields, provide a rich fare of learning interestingly displayed; there is also an adequacy, but no more, of musical examples in the text, a number of informative illustrations, useful bibliographies, and an eclectic index.

Marius Schneider's first chapter on Primitive Music is particularly welcome as an introduction to this volume and to the History as a whole. It is not only that the phonograph and other modern methods of recording have made possible a much more precise knowledge of what the music of primitive peoples is like, but the newer kind of approach now made by the anthropologist enables us to set music in its proper relation to the rest of a primitive culture; it is therefore not only musicians who will profit from this excellent chapter but all who have any kind of concern with the many aspects of ethnology. There are also included in the volume important chapters on the music of all the countries of Far Eastern Asia, India, ancient Mesopotamia, ancient Egypt, Islam, the Bible, and post-Biblical Judaism. Necessarily the available evidence varies greatly for these different parts of the world and for different periods. In some instances the most the author can do is to draw more or less safe inferences from instruments as depicted on monuments; in others there is at least a wealth of literary material on which to draw; while in still others there is a continuous practical tradition which can be traced down to modern times when the missionary's harmonium, the films, and jazz have begun to compete and crush it out of existence.

For readers of *AJA*, however, the two most interesting chapters will be those on the music of ancient Greece and Rome. The chapter on Greek music by Mrs. Isobel Henderson is an outstanding contribution even in a volume of such general high quality as this. Curiosity has always been kept alive in this aspect of musical history and practice by a number of striking and well-known passages in Plato and Aristotle and by the frequent references to music in the Greek poets; and in the last quarter of the nineteenth century particularly, a great impetus was given to the study of this subject by the writings of R. Westphal and H. Riemann in Germany, F. A. Gevaert in Belgium, Th. Reinach in France and Monro and others in England.

Apart from the literary references, there is available a respectable corpus of theoretical writings, including a key to the instrumental and vocal notations and two works going under the names of Euclid and Plutarch; many of these were collected in a Teubner edition (1895) by K. von Jan, though we had to wait until the 1930's for I. Düring's definitive editions of Ptolemy's *Harmonica* and the commentary attributed to Porphyrius. There were also available in Greek musical notation three short hymns (to the Muse, the Sun, and Nemesis) preserved in mediaeval manuscripts and attributed to "Mesomedes"; in 1883 W. M. Ramsay published a Greek musical inscription from Asia Minor; in 1893 the French School unearthed substantial fragments of two long hymns inscribed on stone at Delphi; and there are various fragments preserved in papyri, of which the most famous consists of two mutilated lines from the *Orestes* of Euripides and the most recent an Oslo document published in 1955.

On the face of it, there would appear to be every chance of making something coherent and intelligible out of these varied types of evidence; but there has never been anything approaching unanimity amongst scholars or musicians in treating the evidence as a whole, and for various reasons. Many of the theoretical treatises are concerned really with the branch of mathematics which the ancients called "harmonics" and not with the practical art; the less stereotyped treatises, such as the pseudo-Plutarch and even Aristides Quintilianus, contain material which cannot be easily fitted, if at all, into the "orthodox" scheme of *tonoi*, *systemata*, *genera* and *chroai*; the *opusculum* of Alypius which deals with the notations is riddled with internal inconsistencies and the "key" needs much oiling and filing when we try to use it to unlock the secrets of the musical fragments we possess; and the fragments themselves belong to widely different periods, often raise more problems than they solve, and present musical features to which none of the written treatises offers a clue. Furthermore, the approach of most investigators prior to 1920 was too rigidly conditioned by the framework of western diatonic music and by preconceptions of what Greek music "ought" to have been like. More recently, comparative musicologists have taken a hand in an attempt to bring coherence to the study; but by and large they have been too eclectic in their selection of evidence and none of many theories thus brought forward, including even those of Curt Sachs, has yet found general favour among Greek scholars.

Amidst this welter of conflicting evidence and *ex cathedra* opinion Mrs. Henderson has kept an admirably cool head and her well written chapter can be commended as the most astringent yet well balanced account of the subject now available. She not only shows a keen feeling for what is musically possible but she has a strongly marked historical sense which saves her from the fault, common to many of her predecessors, of thinking of "Greek music" as something crystallized

and static, a sort of mosaic which is complete when all the pieces of disparate evidence have somehow been fitted in. For her part, she has no neat and cosy answers to offer to all our questions but she does succeed in putting our bits of certain knowledge and our irremediable ignorance into perspective. In particular she shows that at a critical moment in the development of Greek music standards of judgment and taste were changed and that in an age of book-learning there supervened a period of musical illiteracy during which all real links with the ancient art were irretrievably lost. She is also surely right in thinking that little more of significant worth can be expected from papyri, that the musical treatises have been worked over so often that they have yielded all they can, and that what the subjects now needs is a reorientation towards the study of the history of those poetic forms with which music was especially associated and of the history of musical criticism and ideas. As regards the music itself, she firmly ends with the chilly quotation: *quod vides perisse, perditum ducas*.

In dealing with Roman music J. E. Scott had a difficult assignment and his chapter is inevitably as bleak as it is short. He tells us what is known about the instruments, the social status of musicians, military music, the art in everyday life and in the theatre, virtuosi, and imperial amateurs. The only scrap he has not picked up is the passage in Sallust (*Bell. Cat.* 25) which suggests that it was thought immodest in a lady to play the lyre, or at least to play it well. The fact is that the Romans seem to have had almost as little interest in music for its own sake as a modern cinema audience; what few references there are to it in prose writers and poets are colorless and conventional; and apart from the legionaries who played on the *tuba*, *lituus*, *cornu* and *bucina*, most of the music of Rome was provided by foreigners. There is no need to pen an epitaph for Roman music: it never had a separate existence.

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HOMMAGES À WALDEMAR DEONNA, Collection Latomus, vol. XXVIII. Pp. 539, pls. 69. Brussels (Berchem), 1957.

This volume, which pays due tribute to Professor Waldemar Deonna, upholds the best traditions and standards of the *Festschrift* and serves as a fine monument to the vast erudition of this Swiss scholar, besides showing the high esteem in which he is held by his colleagues throughout the world. The contributions vary widely not only in subject but in scope; some are brief (three to four pages), others relatively long (twenty to twenty-seven pages). Not all the articles are devoted to the world of classical antiquity, for some are concerned with Egyptology (studies by E. Dri-

oton and B. Van de Walle) and Sumerology (article by G. Contenau), and there is occasional penetration into the art of the early Middle Ages (F. Benoit and E. Salin) or the early Renaissance and later periods where classical influences, artistic and literary, are evident (H. Bardon and R. Jullian). The numerous articles (57 in all), written in five different languages of which French is the most prevalent, reflect Deonna's wide-ranging interests and learning, which are documented in the complete, year-by-year (1904-1956) bibliography of his publications (pp. 2-48).

The contents are grouped not according to subject matter but alphabetically by author. An exhaustive listing of all would be out of place here, but it is essential to say that each is valuable in its field, and that many are important,—likewise to draw attention to the imposing list of renowned scholars of many nations (including some behind the Iron Curtain) who have contributed.

Of the individual articles, only a few, which touch upon special interests of the reviewer, can be singled out for brief mention here. In his discussion of the "Caryatid" Column at Delphi, G. Bendinelli identifies the female figures as "dancers"—as is usual—on the strength of their curious headpieces, for which he shows parallels in dancing figures wearing "feathered" headdresses, depicted on South Italian red-figured vases of the late fifth century B.C. He goes further to suggest an association with devotees of Dionysos, as well as Apollo, stating that such sacred dances also existed on the Greek mainland and on some of the Greek islands (Kos and Delos) ca. 400 B.C. F. Benoit illustrates the persistence of a pagan theme into Christian iconography by finding in representations of Epona, mounted side-saddle on a horse, the source of the mounted Madonna in scenes illustrating the Flight into Egypt as often sculptured on mediaeval capitals (pl. xxii). Details, such as the presence in both cases of a footstool under the feet of the mounted figure, besides the more general similarity of the figures' seated position on the horse, prove convincing. A figure of Epona is also treated in an article by R. Lantier. A number of studies will particularly appeal to the numismatist: that by J. Babelon, for example, and J. Charbonneaux's treatment of an Alexandrian ivory of Serapis-Isis and double cornucopia in the Louvre. The dating and placing of the ivory lead the author to consider related themes on Hellenistic and Roman coins, as well as the Vienna cameo depicting members of the Julio-Claudian family, with a discussion of the double cornucopia as a symbol of divinity and royalty transmitted from Zeus to Hellenistic ruler to Roman Caesar. Etruscology is touched upon in two articles: one by M. Renard which brings together representations of the Judgment of Paris engraved on Etruscan mirrors; another by S. Ferri, who re-examines the compositional setting of the Apollo of Veii, rearranging the terracotta statues of this divinity, the Hind of Herakles, and other fragments from Veii. In the discussion of the Apollo statue, Ferri makes many in-

interesting references to eastern mythological roots, some based on numismatic evidence. The symbolic significance of the snake in African cults is thoroughly treated by M. Leglay. He shows that the snake was there held sacred, imbued with divine powers for healing, protection, fertility, strength, etc. Miss J. Toynbee elaborates on an earlier study of Deonna's by citing and cataloguing the fifteen known examples of the *genii cucullati* found on British sites, where she believes them to be products of Celtic craftsmen made expressly for native British worship. Finally, to close this limited section, I wish to mention two articles devoted to black-figured vase-painting: G. E. Mylonas publishes an amphora from Eleusis by the Chimaera Painter; J. H. C. Kern discusses two Attic skyphoi in Leyden.

As perhaps may be expected in a publication with so wide a diversity of source material, the quality of the illustrations varies from poor (pl. xv, 3) to excellent (pl. lx). The number of articles alone are an eloquent tribute to Waldemar Deonna and will undoubtedly place this volume, of which the editors may be proud, among the most valued and distinguished *Festschriften*. A wealth of material is stored within its contents, especially for students of classical history, art, and literature. The learned contributions to numismatics, religion, mythology and symbolism, to mention only a few of its topics, will insure the usefulness of this publication to scholars in many fields.

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THE PREHISTORY OF EASTERN EUROPE. PART I: MESOLITHIC, NEOLITHIC AND COPPER AGE CULTURES IN RUSSIA AND THE BALTIC AREA, by *Marija Gimbutas*. American School of Prehistoric Research, Peabody Museum, Harvard University, Bulletin No. 20. Pp. ix + 241, frontis., pls. 50, figs. 126, tables 5. Peabody Museum, Cambridge, Massachusetts, 1956. \$7.50.

The archaeology of eastern Europe during the Mesolithic, Neolithic and Copper ages is known to American readers mostly from articles and occasional chapters in books by Childe, Tallgren and others. This is the first book in English to bring together the varied and relatively inaccessible material concerning the cultural development of eastern Europe from Post-Palaeolithic times to the beginning of the Bronze Age. After a brief sketch of the geography and the changing environmental conditions during the Late Glacial and Early Post-Glacial periods, there is a survey of the Mesolithic cultures of southern Russia and northeast Europe. Excavations made largely since 1945 have thrown considerable light upon the Sub-Neolithic of southern Russia and the southeastern Baltic area. The relationship of these cultures to the full Neolithic might

have been clearer if this book could have been postponed until after the publication of the Groningen radio-carbon dates. These dates indicate that the Central European Neolithic culture (Danubian I culture) may go back to the beginning of the fourth millennium B.C. and is thus probably contemporary with the Sub-Neolithic (*Science* 127 [1958] 129, *Nature* 174 [1954] 1138).

A series of regional chapters is devoted to the Neolithic and Chalcolithic periods. Following the presentation of new Neolithic material from southern Russia and the northern Caucasus, the north Caucasian Copper Age culture is discussed as a basis for interpreting the development of the Pit-grave, Hut-grave and Catacomb-grave phases in south Russia. The beginning of the Pit-grave culture, which is placed at 2000 B.C., brought a major change on the steppe marked by *kurgan* (mound) burials and a new cultural assemblage. The author associates this change with the movement of the Indo-European peoples. According to this theory, they pushed through the Caucasus and built the great *kurgans* of Maikop and Tsarskaia, and then fanned out over the Pontic steppe to create the Pit-grave culture. The descendants of the Pit-grave people, after the Hut-grave phase, would have divided into two groups, the coastal Catacomb group, which borrowed its tomb form from the Aegean, and the later Hut-grave group. The former became the Cimmerians and the latter the Scythians, according to recent Russian theory.

The Tripolyi culture of the western Ukraine, which is discussed in terms of the work of T. S. Passek, is correlated with the Neolithic of the Russian steppe. It would have been useful to have a fuller statement of the older work on this culture and greater emphasis upon its connections with the Balkans.

The Early Neolithic of Poland and east Central Europe is presented in terms of the Danubian I-III cultures and the First Northern culture. Here too a fuller outline of older theories would have been useful. Gimbutas emphasizes the role of the Globular Amphora culture in the transformation of Late Neolithic Europe. This culture, which many scholars have derived from northern Europe, is here considered as originating on the Pontic steppe. Although the conception of a steppe origin is not new (see V. G. Childe, *The Danube in Prehistory* [1929] 139ff), it is made the dominant factor in the spread of Indo-European elements to Europe. This period of conflict between the older peasant cultures and intrusive peoples has always been one of the most complex and difficult to interpret. In this work the Globular Amphora culture, arising out of a western flow of Hut-grave elements, is made the main basis for the eastern impact upon central, northern and northeastern Europe. Gimbutas derives the varied Corded Pottery and Battle-axe cultures from the Globular Amphora culture, although many scholars believe that the Corded Pottery cultures not only preceded the Globular Amphora culture but also played a role in the diffusion of steppe elements.

In the last chapter the discussion shifts to the woodlands of northeastern Europe before the intrusion of Corded Pottery and Battle-axe elements. The interesting and varied woodland groups of the Baltic States, Finland, Karelia, and central, northern and eastern Russia are treated as a whole with emphasis upon their fundamental cultural unity. Only in the chronological discussion of these regions and in the regional summary does it become evident that there were three main cultural groups within the woodland zone, the Comb-marked Pottery group of the East Baltic area, the Pit-marked Pottery group of Central Russia and an East Russian-Middle Ural group. Diversity within the woodland zone increased with the intrusion of Corded Pottery and Battle-axe elements, which we know in terms of the Fatyanovo culture.

This monograph with its excellent summary of recent archaeological activity, often difficult of access in American libraries, is a must for all students of the prehistory of Eastern Europe. One looks forward to the publication of the second volume of Dr. Gimbutas' study.

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BRONZE AGE CULTURES IN FRANCE. The Later Phases from the Thirteenth to the Seventh Century B.C., by *Nancy K. Sandars*. Pp. xvii + 412, plates 12, text figures 97, chronological tables 3, maps 13, lists 33, appendices 4, bibliography, index. Cambridge, University Press, 1957. \$19.50.

All prehistorians will be grateful to the author for this large and beautifully produced work, as there has been no comparable publication on the Bronze Age of France since Déchelette dealt with it around 1910. Miss Sandars' careful and systematic study combines a detailed presentation of almost all aspects of the Bronze Age cultures in France with an integrative interpretation in which the results of earlier papers also are balanced one against the other. A certain concentration on eastern and northeastern France is obvious, because the new cultures first rooted there, but the importance of influences from other directions (Italy, Spain and the Atlantic shores) is not obscured at all.

The book opens with a short introduction (pp. 1-12) in which the related cultures and chronological systems of the neighboring lands (particularly those of southwest Germany and Switzerland) are considered. The Reinecke and Montelian systems are equated with Aegean chronological periods. There follows a summary review of the Early Bronze Age in France (pp. 12-39). In that period we find Battle-axe and Straubing influence in Alsace, while in Franche-Comté the most considerable settlements show close ties with the "sheet-bronze" working Straubing and Rhône provinces. The Mediterranean littoral was in close contact with Spanish and north Italian cultures. On

and near the Atlantic seaboard, the megalithic chamber-tombs remained in use. In the Paris basin the meeting of diverse influences brought about the secondary Neolithic Seine-Oise-Marne culture.

Chapter I (pp. 40-77) deals with the Middle Bronze Age in France. In Alsace the Tumulus culture grew up largely from antecedents similar to those in Hesse, Baden and Württemberg, but north Alsace could already show individual character, and the south of Alsace was more closely linked with the Rhône culture and later Straubing groups. During the full Middle Bronze Age space-plates with complex borings were obtained via the western amber route. In spite of keeping step with the Tumulus cultures of south Germany, the people of the Haguenau forest enriched their local culture. The old centres of the Rhône culture were poor and backward. Connections with Italy were maintained on the Mediterranean seaboard.

In the northwest of France the "Armorican Single-Grave culture" flourished. The Paris basin and the central highlands still remained in their secondary Neolithic inactivity.

Chapter II (pp. 78-115) gives an account of the transition period which led from the Middle to the Late Bronze Age. Towards the end of Reinecke's Bronze Age, Period B, (Holste's B II), the *status quo* in France was upset by the first of a series of incursions into this country from over the Vosges. A number of new types (one-edged knives, certain types of pins and safety pins, bracelets and beads) appeared in Alsace, Lorraine and near the upper Seine. There can be no doubt of the mixing of the Tumulus and Urn-field elements in this group. The movement into Lorraine seems to be linked with a late Tumulus (Reinecke C) motive. The upper Seine movement took place during the period Reinecke D.

Chapter III (pp. 116-154) describes the First Urn-field ("Poppy-pin") group, whose arrival marked the beginning of the true Late Bronze Age. Along the northern foothills of the Alps, from Austria through Switzerland and Baden, they buried their dead cremated in urns. The raw material of their metal-work probably came from the east Alpine source of the Late Bronze Age mining industry.

Another Late Bronze Age I group is recognized by a peculiar kind of pottery, the so-called "rilled ware." It may have arrived on the middle Rhine in advance of the Hallstatt A urnfields (Miss Sandars' Second Urn-fields). In France it is linked with the "dolion" burials. The "rilled ware" group appeared here at the end of the Late Bronze Age I and gradually established itself in the periods II and III of the Late Bronze Age (Reinecke's Hallstatt A and B).

In chapter IV (pp. 155-189) the Second Urnfields are discussed. From the fusion of the Middle and Upper Rhenish Urnfield groups near the Rhine-Main confluence, "emigrant bodies moved into France" during period II of the Late Bronze Age. Apart from the settlements in Alsace, two larger cultural groups can be distinguished: the Champbertrand and the Sassenay groups.

The Late Bronze Age III receives a detailed treatment in chapter V (pp. 190-245). Miss Sandars follows Swiss and German archaeologists in subdividing this period into an earlier Hallstatt B I and a later Hallstatt B II. The first division is a direct continuation of the Hallstatt A; only the number of grave goods is increased and their shapes are somewhat modified. The decorative style continues, but certain new motifs appear. The Hallstatt B II phase shows radical changes in burial rite, in pottery and in bronze-working. The Middle Bronze Age custom of tumulus burial re-emerges.

An important event is the beginning of new sites around the Lac de Bourget, in Savoie. Sometimes it is hard to find the limit between the Late Bronze Hallstatt B and the Early Iron Hallstatt C. The use of iron was very rare in Hallstatt B.

Chapter VI (pp. 246-282) is devoted to the study of Urnfield influence in western France. The Late Bronze Age culture of the west also had continental inspiration. In a small urnfield at Martroy-de-Férolles, near Jargeau, Loiret, "rilled ware" of peculiarly eastern variety was found. Sites in Dordogne and Charente seem to suggest that the "rilled ware" people brought the Late Bronze Age culture to the west. The pottery betrays much the same sequence of development as in eastern France. The Second Urnfield types were followed by most of the Third Urnfield shapes. Concerning the date of these events an essential retardation may be expected. At Fort-Harrouard in the northwest, the absence of Second Urnfield objects is most striking. Here the spread of Urnfield ideas is to be placed in the beginning of Hallstatt B I.

The Late Bronze Age in the south of France is discussed in chapter VII (pp. 283-333). First only a few bronze hoards from southern caves show Late Bronze Age influence. A particular form of "rilled pottery" is due to north Italian connections rather than to contacts with central and northern France. But in a series of Mediterranean caves, northern pottery elements are more directly reflected. The shapes are characteristic of the Sassenay group of Hallstatt A. During Hallstatt B an Urnfield expansion took place in the south. On its first arrival the Sassenay group had no contact with west Switzerland and east France. Later they were reinforced by new contingents of people who had been in touch with these areas.

The figure-decorated pottery of south France has its closest parallels (both in style and technique) in the pre-Hellenic cemetery at Cumae, south Italy. Native Urnfield potters in south France could have received ideas from the east Mediterranean by the end of the eighth century B.C.; they certainly did in the seventh. Later on Greek influence increased. After the founding of Marseilles, the Greeks established direct relations with the First Iron Age people of the hinterland.

In chapter VIII (pp. 334-341) the relative and absolute chronology of the south are considered. The expansion of the Late Bronze III urnfields to the south is dated in the second half of the eighth century. The

development of Hallstatt B I into B II in the west Alps and east France falls in the same period.

The book includes a Summary and Retrospect (pp. 342-350) and is completed by 33 lists, 13 maps, 4 appendices, 3 chronological tables and a useful index. How scrupulously Miss Sandars has collected into this volume what is known, appears from a list of more than 400 titles in the bibliography. Special praise should be given to the abundance and good quality of illustrations.

The critical reader may disagree with certain points of chronology. The dating of the Pfaffenhofen bronze cup in the transitional period (pp. 82-83) is not convincing. The subdividing of the early Urnfield culture ("ältere Urnenfelderkultur" in the German terminology) into a transitional phase, a First Urnfield and a Second (Hallstatt A) Urnfield group is similarly questionable (pp. 116-119). Two or three misprints may be found, such as "Übergangszeit" (p. 78) and "*Friedrichsrühr*—Velatice type" (p. 82).

Miss Sandars' work undoubtedly ranks among the most valuable contributions to the study of the prehistory of Central and Southwestern Europe. It will long serve as a chief source for a great area in a vital epoch.

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PREHISTORIC MAN, by *André Leroi-Gourhan*. Pp. ix + 119 and numerous text figs. Philosophical Library, New York, 1957. \$4.75.

This is an English translation of a pleasant little popular introduction to French prehistory, originally done cheaply and well in *La Joie de Connaître* series for a French audience. This edition is badly printed with dreary grey offset half-tones, its title suggests a concern with all of prehistory which the book does not deliver, and the result is certainly not worth \$4.75.

The book has also suffered in its translation. "Anthrope," "Paleanthrope" and "Neanthrope" are not the accepted nominal forms in English (even where the theory which their use implies is accepted), and "Australopithecus" is a very strange variant for *Australopithecus* or *Australopithecine*. But human paleontology is not Professor Leroi-Gourhan's strong point in any case.

Leroi-Gourhan is at his best in describing how the various type-tools of the major European flint-working traditions of the Pleistocene were probably produced. Here the line drawings are conventional but good. There is a particularly attractive little diagram illustrating the proportional increase in lineal measure of cutting edge—for a given mass of flint—for tools of the core-biface, flake, and blade tool traditions. But even here the translator has spoiled the author's intent, by grading the unit mass of "un kilogramme" of the French edition down to "a pound" in the American

edition, and adjusting the lineal measurements of centimeters and meters to inches and feet. But a one pound mass of flint would be too small to make the equation work, arithmetically!

The conclusion must be that if this book has value, for any purpose beyond that of a popular introduction to their prehistory for Frenchmen, the French edition must still be used.

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WALL SCENES FROM THE MORTUARY CHAPEL OF THE MAYOR PASER AT MEDINET HABU, by *Siegfried Schott*, translated by *Elizabeth B. Hauser*. (The Oriental Institute of the University of Chicago, Studies in Ancient Oriental Civilization, No. 30.) Pp. xi + 21, figs. 9, pls. 3 (line drawings). The University of Chicago Press, Chicago, 1957. \$3.50.

The results of the Medinet Habu project of the Oriental Institute have appeared in two series, *The Excavation of Medinet Habu*, of which the fifth and final volume was published in 1954, and *The Epigraphic Survey*, of which five volumes have been issued to date. A certain amount of material which does not conveniently fall into the categories of these major series has been scheduled for publication in *Studies in Ancient Oriental Civilization*.

The relief from the chapel of Paser was uncovered during the excavation of the western fortified gate of the temple of Ramesses III, where the sandstone blocks had been reused in the flooring of later, intrusive tombs after the destruction of the gate. As the excavators suggest, the structure from which these blocks derive is in all likelihood to be identified with one of the five chapels to the west of the temple, the plans of which were made available in *The Excavation of Medinet Habu IV*. The blocks have been convincingly assembled by the members of the expedition into three walls, with several fragments still unplaced. The chapels apparently correspond on a non-royal basis to the mortuary temples of the kings, and the burials of the individuals were probably made in the Theban cliffs, just as the tombs of the kings were cut in the valley of the kings. The relief is of interest in that the scenes represented are rare and in one case unattested in the Theban tombs. There are scenes from the official life of Paser, scenes from the feasts of the Osiris cult with elements of the feast of Sokar and the Abydos journey of the *neshemet* barque, and scenes from a feast of Amon, in which the god crosses over from Karnak and visits the temples of western Thebes. The drawings of the blocks have been completed in dotted lines to indicate probable restorations, which are largely based on comparative material.

The description of the blocks, the reconstitution of the walls of which they once formed parts, and the

assessment of their meaning are all ably dealt with by Professor Schott. The volume is a contribution to the study of Medinet Habu, and although the material is modest in extent and significance, it will certainly be useful.

The reviewer would have liked to have seen the inclusion of at least one photographic plate, for only in this way can the nature and quality of the relief be determined and appreciated. It may well be that blocks from the same or from the adjacent chapels could be located in the storerooms of museums here and abroad, and their identification, in the absence of the name of the tomb owner, would be materially aided by the publication of a photograph of one of the more interesting blocks.

WILLIAM KELLY SIMPSON

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LE MONDE D'UR, ASSUR ET BABYLON, by *Hartmut Schmökel*, translated by *Lily Jumel*. Pp. 294, pls. 118, map. Éditions Corrêa, Paris, 1957.

The broad outlines of the history and culture of the ancient Near East are now quite well established, and in some areas the documentation of particular subjects is extensive. Nevertheless the answer to most problems remains in the realm of the possible or probable, rather than the certain. The writer of a general book must therefore choose one of three alternatives, each with serious drawbacks. He may stick closely to what is known. The result then is apt to be shapeless, disconnected and dull. He may work with a mixture of the known and the uncertain, trying always to indicate the degree of uncertainty. The result of this will tend to be diffuse and confusing. Finally he may take the particular solution of the various problems that best fits the picture as he sees it and ignore all the rest. This is the method followed in the present book. Inevitably it will arouse the ire of scholars who realize that much presented there as fact is doubtful or even wrong.

As an example of the arbitrary solution of problems, p. 11 may be cited. In one paragraph we learn: that the Sumerians came by boat, which is possible; that there was an estuary of the Persian Gulf leading to a lagoon at Eridu, a matter still quite obscure; that the original inhabitants were few in number, very probable; that Eridu was the site of the first Sumerian colony, no more than a good guess; that Enki was their oldest deity, possible but dependent on our limited understanding of what was then meant by deity; that of those mysterious places, Tilmun and Meluhha, the first can be located on Bahrein Island, the latter on the south coast of the gulf, the one probable, the other possible, but very likely confused with Magan, which could have been in Oman.

Or take p. 41, where it is stated: that the Sumerians were not interested in the steppe country, which seems strange in view of the predominant role of cattle-rai-

ing in their life; that the Semites were driven to civilized centers by the hard conditions of the desert steppes, though it is more likely that the important groups of early Semites came from western towns already under the sway of Sumerian urban culture; that Semites were responsible for the interruption of Sumerian development in the early archaic period, whereas this should probably be attributed more to hill folk from the north and east or to survivors of the original inhabitants, Semitic elements only gradually acquiring that predominance which culminated in the rule of Sargon of Akkad.

Other dubious judgments can be found on almost every page. For example: it is difficult to accept Gudea as a vassal of the third dynasty of Ur (p. 54); most scholars would consider classical Akkadian literature as early Old Babylonian, not as a product of the Kassite period (p. 98); Middle Assyrian glyptic artists were hardly trying to find release from the rigor of Assyrian life through their work (p. 114), for seals similar to those they produced are also found in Babylonia, indicating that, like the ivory workers, they probably went wherever they were in demand.

Finally the particular theory about the religiosity of the Sumerians adopted by the author severely limits his picture of the early development. He presents as full-grown from the beginning a religious point of view that remained in a state of dynamic readjustment until at least the time of Hammurabi. In particular the concept of deity in human form, which seems to have been dimly realized by the earliest Sumerians, largely disappeared until late archaic times and was given full expression only under the dynasty of Akkad.

The present edition is a French translation of "Ur, Assur und Babylon" published in Stuttgart in 1955. It is not acceptable, either as translating or editing. The index has been omitted; many plate references are lacking or incorrect; vital sentences have been dropped or distorted (e.g. p. 121, "energetic prince" should refer to Tiglatpileser III not Assurnirari V); errors are common (e.g. p. 24, Eannatum becomes a prince of Eanna; p. 27, a statue from Eridu becomes one of a prince of Eridu; worst of all, throughout the text Near East appears as Asia Minor); misspellings and curious transliterations of names are innumerable (e.g. German "ch" is rendered both as "ch" and "sh," so too is "sch"; hence German "Aschschur"—which is bad enough—becomes "Ashchur").

All this is most unfortunate, for the book makes fascinating reading. The treatment of subject after subject, each vividly set in its own particular place and time, is stimulating, if highly controversial. The author must be praised for his attempt to give a semblance of order to the ever-growing mass of material on the ancient Near East. Only by such efforts can the study of this vital subject get the direction it needs for further progress.

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EARLY MESOPOTAMIAN ROYAL TITLES: A Philological and Historical Analysis, by *William Hallo*, American Oriental Series, American Oriental Society, Vol. 43. New Haven, Conn., 1957.

Recent decades of archaeological research have produced quantities of inscriptional material which have served to clarify all phases of Ancient Near Eastern history. The development of the characteristic Mesopotamian civilization can now be traced with increasing confidence and the relationship of later empires to the early city states be better understood.

But most of the earliest historical records are spare in their political data and, by themselves, often confusing or misleading. What were once thought to be consecutive dynasties extending over many centuries prove to have overlapped considerably. The resulting foreshortened picture conveys an impression of increased activity and greater realism; actual history rather than dusty chronicles.

Among the data permitting this more detailed reconstruction of early history are political references in date formulae, building inscriptions, royal titularies and royal epithets. The latter two are the subject of this monograph.

It is the purpose of the author, as stated, to collect the royal titles and epithets from the earliest historical records down to the end of the Old Babylonian Period and study their occurrences in context. He professes not to have attempted any historical analysis, preferring to leave this for future studies. But even so the pattern of development from local governor to dynast begins to take form through the chronological listings and the ebb and flow of power within the several dynasties is seen in the variations in title and epithets employed by the successive rulers. There appears to have been a continuing struggle between palace and temple, governed by economic and political factors, which was reflected in the authority and hence title of the ruler.

By and large it would appear that the epithets tend to reflect the relationship, real or simulated, between the sovereign and his patron deities and people, while the titles indicate the assumed political power of the individual both as regards his own country and its neighbors. But even here it is easy to read too much into an isolated title; contemporary use by predecessors and successors often helps to define its meaning more accurately.

This painstaking study will help the historian to discern more clearly the pattern behind the kaleidoscopically fluctuating fortunes of the scattered early Mesopotamian city-states upon which the great empires were later built. It will also shed further welcome light on the characteristic Mesopotamian political form of "democracy" with its implications for present day problems of world governments.

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TELL HALAF III: DIE BILDWERKE, by Dietrich Opitz and Anton Moortgat. Pp. vii + 125, figs. 15, pls. 160. Walter De Gruyter & Co., Berlin, 1955.

The final publication of the excavations at Tell Halaf is continued in this monumental volume devoted to the sculptures. The standards of presentation are admirable. The illustrations appear in large format on clear colotype plates, offering multiple views of the sculptures in the round and articulate photographs of the orthostats. The texture of the stone is clear without obscuring the designs, an ideal arrangement which does not always prevail in museum displays of such reliefs.

The full pictorial presentation is preceded by a description of the individual sculptures, originally written by D. Opitz but organized and edited by A. Moortgat. The latter had but limited access to the originals during the final stages of the writing of *Halaf III*. Most of the large orthostats and sculptures in the round, originally exhibited in the Tell Halaf Museum in Berlin, were destroyed in 1943. A good number (52) of the small orthostats survive in the Staatliche Museen, Berlin. The most representative collection is now in the museum of Aleppo (some 35 small orthostats, several large orthostats and statues) which has the added advantage of a liberal display of casts of lost pieces. The statue C 2 (pl. 149), sometimes quoted as from Mardin (H. T. Bossert, *Altanatolien* [Berlin 1942] fig. 956) but here identified as genuine Halaf, is in the Adana Museum. Some small orthostats are preserved in London, Paris, New York and Baltimore.

Moortgat is also responsible for the most demanding part of the publication, viz. chapter I dealing with the historical classification of the sculptures. In view of the variety of opinions expressed previously about the chronology and style of the Halaf works, Moortgat's clear and concise analysis of the archaeological evidence is a welcome and authoritative contribution, although far from the last word on the subject (cf. recent comments by W. F. Albright *AnatSt* 6 [1956] 75-85; A. Goetze, *Kleinasiens* [Kulturgeschichte des alten Orients, III, 1, second edition, Munich 1957] 177 n. 1). Moortgat does not enter into detailed discussions about stylistic comparisons with external material but limits himself to a thorough examination of the local situation.

His starting point is the conclusion reached by R. Naumann in volume II of the Halaf publication (*Halaf II* 381; cf. A. Perkins, *AJA* 58 [1954] 165-66) that the period of construction and reconstruction of the Aramaean buildings at Halaf did not exceed 100 years, that it was preceded by a gap and immediately followed by the Assyrian level in 808 B.C. when Halaf (Guzana) was made part of an Assyrian province. Moortgat rejects the theory that some of the sculptures were transported from elsewhere to Halaf in view of the great coherence in style of all the excavated pieces. The ninth century B.C. is therefore suggested as the general and universal range for chronological distribution.

Subdivisions are based on stratigraphical and architectural sequences. Naumann differentiated clearly be-

tween the final stage of the temple-palace (hilani) as built by Kapara and the *Altbauschicht* which preceded it. Kapara reused older small orthostats for the decoration of the southern outer wall of his hilani and had them rearranged in careless fashion (15ff). Many orthostats are explicitly inscribed with a reference to the palace of Kapara. Some of the inscriptions are written over erased earlier texts, and many small orthostats still carry a text identifying them as originally having belonged to the "temple of the weather-god" (e-kal-lim U). The front of the hilani was rebuilt on special lines under Kapara and decorated with the most famous of Halaf sculptures: the three colossal "Caryatid" statues on lion, bull and lioness bases; guardian sphinxes built into the door jambs; large new orthostats continuing the decoration to left and right; griffin guardians in the jambs of the second door. To the same Kapara complex belong the scorpion-men of the citadel gate east of the hilani and the colossal bird set on a column.

The *Altbauschicht* then originally contained many (if not all) of the small orthostats. A pre-Kapara date can also be given to cremation burials covered by Kapara terraces. Those to the south of the citadel wall were marked by the seated statues of plates 1-5 and 6-9. Both these extramural cremations and those under the hilani terrace contained objects valuable for stylistic comparisons with the sculptures. Moortgat uses gold plaques, jewelry, ivories and a carved tripod bowl to demonstrate the coherence in style of minor arts and early orthostats (5ff). The remaining sculpture, statues from the "cult-room" outside of the citadel (probably another funeral building) are assigned to an intermediate range (28ff).

The relative order of the proposed classification seems correct. There are different building periods and the archaeological differentiation is imperative. The correctness of the suggested absolute chronology: early ninth century for the *Altbauschicht* sculptures and late ninth century for the Kapara material, depends upon the validity of the historical interpretation of 808 B.C. as the date of the destruction level and the final incorporation of Halaf into Assyrian rule (cf. against this Albright in *The Aegean and the Near East*. Studies presented to Hetty Goldman [Locust Valley, N.Y. 1956] 150ff; *AnatSt* 6 [1956] 81ff).

The absolute dates of the Aramaic levels will have to be sanctioned by the historians. To the archaeologists falls the responsibility for two artistic problems, the question of internal stylistic evolution and that of the sources of inspiration of the Halaf sculptures. Moortgat emphasizes that there is no essential difference in style between his pre-Kapara and Kapara groups. The improvement in the Kapara sculptures is one of greater technical skill and care (24). In both phases the designs of the orthostats are essentially similar; their style is linear and lacking in modelling. The reviewer agrees entirely with this. One may add that even in the category of sculptures in the round the continuity is strong, as shown by the sequence of the

pre-Kapara seated funerary statue A 2, the intermediate "Kultraum" statues C 1, C 2, and the Caryatids of the Kapara porch Bc 4, Bc 6. The statue stylistically called the oldest by Moortgat, A 1 (10f) is certainly different from the sequence just quoted. Its primitive traits, squareness and lack of compromise make it the most archaic looking of all; yet its facial type, one of the most striking primitivisms about it, is closely related to that of Bb 1, the eastern guardian sphinx of Kapara's hilani entrance (cf. pls. 3 and 111). Both have the sweeping continuous curve of skull, forehead and nose which is replaced by a more realistically articulated profile in the other series. Bb 1 and A 1 have other traits in common (ear, angular treatment of the body), yet A 1 stands at the beginning of the series and Bb 1 at the end, with its boastful inscription by Kapara (*AOF* Beiheft I, 76f). Unless this sphinx is reused from the *Altbauschicht* (cf. the partly remodelled scorpion-man Bd 3 pl. 143) the resemblance of A 1 to Bb 1 means striking conservatism of forms if not identical sculptural workmanship, and tends to reduce the chronological range of the stratigraphically early and late groups.

The sources of inspiration for the Halaf sculptures have a bearing upon the chronological issue and the relation of the site to Assyria. To the reviewer the art of Halaf is essentially non-Assyrian. The architectural device of decorating the base of palace and temple walls with orthostats is a North Syrian or Anatolian invention. We find polished basalt orthostats in the palace of level VII in Alalakh (Sir Leonard Woolley, *Alalakh* [Oxford 1955] pls. XIIIff) and decorated orthostats in Hittite Empire context in Alaca Hüyük (H. T. Bossert, *Altanatolien* [Berlin 1942] figs. 502-23) and Alalakh (Woolley *op.cit.* pl. XLVIII). In the first millennium this Hittite use of carved orthostats was revived or continued at Carchemish, a site with a magnificent display of orthostat sculptures; it was introduced with good Hittite iconography at Malatya and energetically imitated by North Syrian city-states. This Iron Age popularity of sculptured orthostats is then due to a direct borrowing of the Hittite tradition analogous to the revival of sculptures in the round. The colossal seated and standing statues carved at Carchemish and Zincirli are descendants of the Hittite type represented at Fasillar (Bossert, *Altanatolien* figs. 565-66, 568-69; *E. Akurgal, Späthethische Bildkunst* [Ankara 1949] 100), whose base (lions accompanied by a minor deity) they also imitate. Tell Halaf is just one of many sites inspired to follow the neo-Hittite and North Syrian lead. The Assyrians were not in a position to furnish the prototypes for the idea of orthostatic decoration nor for the colossal statues at Halaf. Before the monumental enterprise of Assurnasirpal Mesopotamian palaces were decorated with frescoes, glazed tiles or tile reliefs. Assurnasirpal probably borrowed the principle of carved stone orthostats from the West (contra H. Frankfort, *The Art and Architecture of the Ancient Orient* [Harmondsworth 1954] 166) in his ambitious palace improvement program. Sculpture in the round, and par-

ticularly colossal sculpture, remained unfamiliar to the Assyrian artist throughout (as proved by unsuccessful attempts).

The Halaf sculptures are technically inspired by the West. The alternating arrangement of dark-and-light (basalt and red painted limestone) orthostats as used in the south walls of the hilani is a direct imitation of more sophisticated dark-and-light staccato at Carchemish, although it is uncertain that the pre-Kapara temple had the same bichrome effect (cf. K. Galling's observations in *BibO* 13 [1956] 36f: the reused orthostats carrying the original inscription of the "temple of the weather-god" are all of grey basalt).

Whereas the colossal statues, even the funerary ones, find their most numerous formal counterparts at Carchemish, Halaf introduces an innovation when it uses deities set on attributive animals as Caryatids in the hilani porch. This bold device is again understandable in a North Syrian perspective, where double lion-bases were commonly used as column- as well as statue-supports (e.g. in the hilani at Tell Tainat, Bossert, *Altanatolien* figs. 870-73). It has to be admitted that Halaf has a grandiose primitive touch all its own.

The basic affinities and debts of Halaf therefore lie on the western side, which leaves the chronological field wide open so long as architectural and sculptural techniques are examined in isolation. Iconographically the situation is somewhat more complex. To the motives common in the neo-Hittite and North Syrian world a number of themes are added apparently by transfer from minor arts (ivories, metal, glyptic) into sculpture, a procedure which gave the Halaf artists access to a wealth of survivals from the Mitannian-Hurrian repertoire. Very few of the iconographic themes betray Assyrian inspiration, and even in the case of pls. 43 a (A 3, 60: ship and fishes) and 94 a (A 3, 163: fishman, a pre-Kapara slab) one may wonder whether Assyrian sculptures or rather minor arts presented the theme to Halaf artists. There is a weak chronological support in these Assyrian themes for a late ninth century date of the orthostats, but philological and historical evidence will have to come to its aid.

The poor quality of the small earlier orthostats betrays the lack of a local sculptural tradition at Halaf, and the rearrangement by Kapara perhaps destroyed even the vestiges of iconographical coherence. The profusion of rampant animals facing either left or right makes it probable that many of them were part of antithetical groups with central trees, of which there are enough to go around. Even so it seems that quadrupeds are not allowed as a rule to stand on their four feet because they would not fit the standard format of the orthostats. As pointed out by H. J. Kantor (*JNES* 15 [1956] 173) the animals were relatively better carved than the human designs because their prototypes were more readily available in minor arts, especially ivories. The best two-dimensional outlining of this kind is found in the delicate images of dead deer under the great portal lion of the hilani (Bc 1, pls. 121-22).

The restraint with which Moortgat has presented

this material and touched upon its numerous problems is admirable. Much discussion will still follow and several theories will have to be demolished before a consensus is reached about the proper place of Halaf in the history of ancient art. This book offers the fullest available documentation for the remainder of the task. The participants in the discussion will agree about their collective gratitude to the authors of the present volume.

MACHTELD J. MELLINK

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THE SYMBOL OF THE BEAST. THE ANIMAL-STYLE ART OF EURASIA, by Dagny Carter. Pp. ix + 204, pls. 48. Ronald Press Co., New York, 1957. \$8.50.

The works of Rostovtzeff and Borovka are long out of print, and offprints of Sir Ellis Minns' masterly short survey, *The Art of the Northern Nomads* (*ProcBritAc* 28 [1945]) are no longer available. A new book on the subject of Scythian art and its ramifications, therefore, is certain to receive a sympathetic and keen attention, especially if it is based on a personal acquaintance of the author with the most important monuments and takes into account the finds made in Russian territories during recent years.

Mrs. Carter's book meets both these requirements. She began to take an interest in Nomadic art as early as 1927; she has travelled to China and Mongolia, has seen the Leningrad collection, and has herself built up a collection of no less than 300 pieces. And, she has covered Russia of recent date.

Except for the Introduction, a chapter on "Beast Symbolism," and one on "The End of Eurasia's Animal-Style Art," the text is arranged under geographical headings which may be enumerated here to give the reader an adequate idea of the scope of this book: 1. South Russia; 2. Ananino and Perm; 3. Minussinsk; 4. Altai; 5. Pazyryk; 6. Ordos; 7. Noin Ula; 8. Luristan and Ziwiye; 9. Caucasus; 10. Europe (of the Migrations); 11. Vendel and Viking Styles. Added are an extensive and useful bibliography (pp. 173-91), an index of plates, and an index.

As for the ultimate origin of the Eurasian Animal Style, Mrs. Carter holds, as did J. G. Andersson, that we have to look to the Palaeolithic (pp. 30, 91) and "a hunting people who at first used animal bones for their artistic creations" (p. 29). Later on we find the statement that "the origin . . . belonged no doubt to a specific people" while the Scyths and metal traders acted as "distributors" (p. 114). But they would have been late in doing so if "this peculiar . . . style existed unmistakably in the sixteenth century B.C.," as the author observes apropos of a gold plaque from one of the Mycenaean shaft-graves (p. 31f; pl. 6 C), or if Queen Shub-ad's lapis lazuli box had to be taken as a still earlier relevant example (p. 30; pl. 6 B).

We are facing here a set of unreconciled premises. Neither the Ur specimen nor the Mycenaean plaque bear on the problem of the beginnings of the Eurasian Animal Style; the intricate design of animals locked in combat is foreign to the early Animal Style, and it is foreign also to Palaeolithic art. Rather, the motif of the animals in combat appears only in Sarmatian art, a phase deeply modified by Oriental traditions, and it is to these latter traditions that the examples from Ur and Mycenae can be linked. The importance of palaeolithic survivals may be questioned also in the case of European animal sculpture after La Tène (pp. 129-32).

For the end of the Animal Art of Northern Eurasia, the author provides a more dramatic explanation: ". . . its disappearance coincides with the appearance of new anthropomorphic religions" (p. 168), Buddhism and Christianity, although "it is impossible to state precisely how long Eurasia's animal-style art continued among Asia's shifting and historically elusive populations" (p. 171).

The contents of the various chapters differ in accordance with the existing literature. As far as possible, the history of research done in each area is briefly outlined and a careful description of the major monuments given. In the main, therefore, the book amounts to an objective and convenient summary. It does not fulfill all the expectations of an art historian; the treatment of the works of art under discussion remains quite vague and unspecific, and the excitement of a more personal approach and discovery is lacking.

There is a surprisingly large number of misprints which I imagine are the printer's and publisher's rather than the author's: p. 22 "Tiesenhauser" read Tiesenhausen; p. 59 "hypocamp" read hippocamp, "Golomstock" read Golomshtok; p. 68 "Ammianus, Marcellinus, and Pluvius Secundus" read Ammianus Marcellinus and Plinius Secundus; p. 86 "Poliokoff" read Poliakov, "Equus hemoneonus" read Equus hemionus, "bachrianus" read bactrianus, "bagen becki" read hagenbecki, "Ovis amman Mongiolica" read Ovis ammon Mongolica; p. 87 "pseudois" read pseudovis; p. 91 "H. Kuhn" read H. Kühn; p. 125 "Dechelette" read Déchelette; p. 126 "Huk" read Huc, "Ernest Herzfeld" read Ernst Herzfeld; p. 189, s. v. Kuftin, "Tbilisi" read Tbilisi; p. 190, s. v. Beninger, "alnaische" read alaische; and p. 191 "Le Cog" read Le Coq. The legend of pl. 12 (a) referring to a horse's forehead ornament carved of stag horn erroneously reads "Hornblend ornament."

Only two of the 48 plates (pls. 21, 22) show specimens of Mrs. Carter's own collection of Ordos bronzes. It would be gratifying to see this collection published as a whole or in part, a task for which the author with her familiarity with both Chinese and Steppe art is eminently qualified.

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THE MIDDLE CYPRIOTE BRONZE AGE, by Paul Åström.
Pp. xviii + 307, figs. 19, pls. 40. Lund, 1957.

This is the first of two appearances of Åström's study of the Middle Cypriote Bronze Age, for while it is presented here as a dissertation, its format is that of the *Swedish Cyprus Expedition*, of which it will form part of Volume IV, Part I. This being the case, the material is now out of context, as it were, and a definitive review should perhaps await the full volume. But this dissertation inevitably invites comparison with another dissertation which also appeared twice, Einar Gjerstad's *Studies on Prehistoric Cyprus*, in which is contained the most complete previous account of the Middle Cypriote period. Though thirty-one years separate the two accounts, the reader is struck more by the similarities than the differences, is impressed with the soundness of Gjerstad's pioneer work, and is disappointed that three decades have produced so little new information despite the quantity of Middle Cypriote material excavated since 1926, largely by the Swedish Cyprus Expedition. This is not to depreciate the present work, which is a most complete and careful presentation of all that is now known of Middle Bronze Age Cyprus, but only to point out that the addition of many more tombs and their contents has not added proportionately to our knowledge of the period.

The comparison of the state of knowledge about Middle Bronze Age Cyprus is best epitomized by the sections on architecture presented by Åström and Gjerstad. To the Kalopsida house, fully described by Gjerstad, is added only the Nitovikla fortress of the very end of the MC-III period; but since the Kalopsida stratification was longer than that of Nitovikla, little or nothing has been added to our knowledge of MC stratigraphy. The limited extent of the Kalopsida excavation reduces the reliability of that knowledge to a bare minimum. Enkomi promises some information on MC-III, but the excavation of one or more stratified MC sites is imperative. The two earlier phases of the MC period are but little illuminated even by new tombs, though the material from them has allowed a refinement in the details of ceramic development. There is still no firm basis for the absolute chronology, and Åström is limited to a detailed consideration of the date of the much-discussed Cretan vase found in an EC-III tomb at Lapithos, in order to arrive at a date for the beginning of MC-I. By rationalizing for himself a date of 1900 B.C. for the beginning of Middle Minoan I, a date few, if any, Aegean archaeologists would accept, he arrives at a date of 1800 B.C. for the beginning of MC-I. This may prove to be twice as far off the mark as Gjerstad's date of 2100; to this reviewer 2000 B.C. still seems to be a better date. On Åström's scheme the whole MC period is squeezed into two centuries, with MC-I and MC-II being allowed only fifty years each. At Kalopsida there are five floor levels with about two meters of accumulation representing these two earlier phases, which in itself should make one suspicious of their extreme brevity in Åström's

chronology. Not that this is impossible, for there is no equation between deposit depth and time, or even number of floor levels and time, but it seems unlikely, especially when compared with but two floor levels and less than one-third the accumulation that is assigned to the century of the MC-III period. Clearly the available stratigraphy is too limited to do any more than indicate that without a sounder stratigraphic basis the chronology of Åström, based on tombs, must remain open to considerable doubt, except for its final date of 1600 B.C.

Åström's presentation of the pottery and objects of metal, terracotta and stone follows the scheme established by Gjerstad, but the material is more abundant and is more fully described and illustrated, more with drawings than photographs, with the result that one gets a better idea of the shape and decoration of objects than of their fabric or texture. Particularly interesting is the chapter on foreign relations, which provides the comparisons later used in discussing absolute chronology. The summary remarks show very clearly both the strength and the weaknesses in the present knowledge of Middle Bronze Age Cyprus. While tombs and their contents throw much light on only one limited aspect of the Middle Cypriote culture, they do bear evidence of the active contacts of Cyprus with its neighbors. Åström has made full use of all that is now available in building up a picture of Middle Cypriote civilization, but it is a patchy picture at best, and only the excavation of Middle Cypriote settlements will produce the material to fill it out and make it more reliable.

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MYCENAEAN CIVILIZATION, PUBLICATIONS SINCE 1935, by Brenda E. Moon. Institute of Classical Studies, University of London, Bulletin Supplement No. 3. Pp. 77. 1957. 10 s.

This paper-bound survey of titles in a specialized field of Bronze Age archaeology should allow many old scraps of paper to be thrown away. Miss Moon has culled the journals of twenty-one years with precision, without, to my knowledge, major accidental omissions except Trendall's *Handbook to the Nicholson Museum* 229-239. Her conception of the Mycenaean field is, however, extremely narrow. In principle, though not consistently in practice, she places all bibliography concerned with Linear A or B, Near Eastern, Minoan, Dorian, Dark Ages, or Survivals firmly to one side as interesting but peripheral. This means that the index is in detailed control of Mainland pottery, architecture, and minor arts from the fifteenth to the thirteenth centuries B.C., but when Mycenaean interest begins to wander overseas the entries become stringently selective on no very clear principle. The current trend seems to set against this isolating specialism, and favor an appraisal of Mycenaean culture in its total ancient

Mediterranean framework, so that one must regret a decision about organization which omits important scholarship on origins, survivals, and cultural influences. Yet such a comprehensive bibliography is probably too strenuous for the ordinary researcher, and several overlapping projects exist which supplement Miss Moon's admirable list.

One feels in adding new titles that Miss Moon has already considered and discarded them. The following list makes no pretense of being either complete or polished, but aims only at bringing the survey up to date (1957) and broadening its interest in some minor directions. Constant reference should be made to Schachermayr's "Ägäische Frühzeit" surveys in *Anz-Alt*, notes in Matz' "Ägäis" (*Hdbch. der Arch.* 2, 179), current reports in *AJA*, *BCH*, *JHS*, *AnatSt*, *Belleten* (especially for such sites as Kültepe, Beyce Sultan), and the Greek periodicals *Εργον*, *Κρητικά Χρόνικα*, and *Κυπριακαὶ Σπουδαί*.

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Finally, the Mycenaean Bibliography issued by Emmett Bennett of Texas is valuable as including a number of archaeological items along with its primary script work. Perhaps someday a regular outlet for Bronze Age bibliography will be framed to amalgamate the various endeavors in separate fields. Until then, Miss Moon's compilation will remain extraordinarily valuable for students, with its cross-indexing by subject and topography, and its welcome qualities of cheapness and thoroughness.

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GREEK ARCHITECTURE, by A. W. Lawrence (The Pelican History of Art). Pp. xxxiv + 316, figs. 171, pls. 152. Penguin Books, London, 1957.

Considering the scarcity of good up to date surveys of Greek sculpture, Greek painting, and Greek art in general we now have a relative surfeit of recent accounts of Greek architecture: Robertson, *Greek and Roman Architecture*² (1945); Dinsmoor, *Architecture of Ancient Greece*³ (1950); Wycherley, *How the Greeks built Cities* (1949); Plommer, *Ancient and Classical Architecture* (1956); and now Lawrence's handsome new volume in the Pelican History of Art series. Since L. has already given us handbooks of Classical-Greek and Hellenistic sculpture perhaps he will now put us still further in his debt by producing the badly needed general survey of Greek art.

Like the other members of the Pelican series the new volume is sturdily bound, well printed, and excel-

lently illustrated. The 152 finely reproduced plates contain 213 separate photos, most of excellent quality. Many are new and taken by the author or by Alison Frantz; others are reproductions of photos by Hege. The book is equipped with adequate outline maps, diagrams of the orders, a useful bibliography, and an index. The last is to me the least satisfactory. It seems quite accurate and is analytically arranged; but a sampling indicates that many significant topics or entries under topics are omitted. On p. 244, to take one page at random, there are important unindexed mentions of altars, bathtubs, tiled floors, tiled roofs, and wall decoration; indeed, except for altars, none of these items is indexed at all (though floors and roofs of other types are). The single entry under "altars" omits the book's principal discussion of the architecture of altars on p. 213, the study of the Pergamene Altar on pp. 213f, and other important mentions on pp. 217, 244, 276, 277, 284, etc. Although the author makes several interesting observations regarding proportion or mathematical relationship between the parts of buildings (pp. 158, 192, 199, 216, etc.) these are not brought together in the index. Nor is there any reference to units of measurement although the subject is alluded to several times; incidentally the (very doubtful) "Samian foot" is given on p. 92 as 32.86 cm., but on p. 151 as 34.85 cm. Instead of a nine-page index and an eleven-page list of illustrations why could the latter not be omitted (it is useless except for the indication of source, and this could be included briefly in the caption), and the extra space utilized for a more complete index? An unfortunate editorial slip is the inclusion of the wrong illustration for fig. 137, which is of course not an Olynthian house but another version of the Larisa palace of fig. 138. Corrections should also be made in the captions to pl. 53B, which is the west end and not the south side of the Parthenon; and pl. 7, which is not a 13th century portico at Hagia Triada, but the north end of the Central Court of Phaistos, 15th century. On p. 58 the reference to pl. 9A should be altered to 8B, and that to 9B altered to 9A and B.

Because of the brief treatment of Bronze Age architecture in the other surveys of Greek architecture, and the importance which L. attaches to the connections between this and the Classical period—all the more rightly now that the Mycenaean civilization is definitely seen to be a preliminary phase of Greek civilization—he has devoted more than one quarter of his book to the Bronze Age architecture of Crete and the Mainland, whereas Dinsmoor, for example, allows only one tenth to this period. Since much of the descriptive matter of the rest of the book follows more familiar paths, it is not surprising that there should be more in the Bronze Age section to question or comment on, and therefore reasonable that we should pay especial attention to it in our review.

Let us begin with Phaistos (esp. pp. 39-41). L. makes the interesting, though to me improbable, suggestion (pp. 24f) that it was the winter seat of a dynasty which ruled in summer at Knossos. H. Triada, which is dealt

with in twelve lines, gets a full-page plan; but the last palace at Phaistos, with a page of text, gets only a half-page plan showing the northern half of the palace and that confused by the existence of earlier and later (Classical) walls (better to have used *Festós II*, fig. 285); indeed a later wall fragment has misled L. himself in his description (p. 40) of the Peristyle Court. He remarks (p. 41) that the Central Court has been extended (?) to 73 by 152½ feet, though on p. 24 he gave it more correctly as 170½ feet by 72 feet (see *AJA* 61 [1957] 255 and note 4). The east portico of this court is said to have "square pillars of masonry, alternately thick and thin" (p. 41), but the smaller bases supported columns (*Festós II*, 160). Room 25 is said (p. 41) to be simply "the entrance hall to some magazines," but surely such a handsome room had a more important function than this (*AJA* 60 [1956] 155f). To one particularly significant feature at Phaistos L. does not call attention, namely the very careful symmetrical and axial north façade of the Central Court, a feature which constitutes an important exception to the generally asymmetrical character of Minoan architecture, which L. repeatedly emphasizes. When one thinks of the designs common on Cretan pottery and sealstones one wonders whether this emphasis is not over-stressed. Even fairly pretentious Greek houses are quite deliberately asymmetrical (*Olynthus VIII*, 147), but one would hardly single out asymmetry as a leading principle of Greek architecture. And at Eshnunna in Mesopotamia in the late third millennium B.C. there is an utterly asymmetrical palace with a perfectly symmetrical and axial temple on one side and a shrine on the other, all forming part of one and the same complex. An important defect, in my opinion, in the description of this and the other palaces, is the lack of any reference to the fact that many of the most important rooms were located in the now missing upper storeys, the "Piano Nobile" (at Phaistos, *AJA* 60 [1956] 151-57, and other articles to follow); the reader is told that the palaces are, for the most part, "an unintelligible and to all appearances senseless agglomeration" (p. 41) of small rooms, whereas most of the preserved rooms were surely merely storage-rooms, work-rooms, small cult-rooms, and the like. Thus there is a tendency to give the Minoan designers less than their due. Two rooms north of the Central Court at Mallia (one is the largest room in the palace) are said to be "planned in a strikingly primitive fashion" (p. 41). But this criticism is based only on the ground-floor plan; considered as the basis for important rooms in the second storey in my opinion it makes sense. Incidentally a better and more complete plan of Mallia is available in Chapouthier, *Deux épées d'apparat* (*Etudes crétoises V*), fig. 1.

A few other points may be mentioned. The Tylissos plans (fig. 29) are not reliable since, as a result of further study and excavation, Platon has revised them considerably; it would have been better to use the Mallia houses as examples. It is dangerous to call attention

to the megaron-like form of the rooms at Nirou Khani (p. 48) without at least warning the reader of the very significant differences; indeed is the resemblance really only superficial? The brief discussion (pp. 48f) of town-planning might have utilized the evidence from Mallia to advantage. I cannot agree that the resemblance between the Doric frieze and the half-rosette frieze of the Bronze Age is purely fortuitous, though there are others, of course, who share his opinion (p. 31). Granted that the "Women's quarters" at Knossos and elsewhere were not specifically reserved for the women there is surely clear evidence that they were more secluded and contained the more private living-quarters of the residential block (p. 39). Moreover his remark (p. 39) that Evans associated these rooms with a queen merely because of the ample proportions of a low seat is unjustified and is due to his confusion of Evans' comments on a bench in the Queen's Megaron and on the stone seats in the area of the Throne Room (cf. *Palace of Minos III*, 368, with IV, 925-27). The Tiryns megaron is said (p. 72) to be the largest of all Mycenaean rooms (9.80 by 11.80 m.), yet the megaron at Mycenae (p. 77) was about 12 by 13 m., while the new megaron at Pylos is about 11.20 by 12.90 m.

On the Classical sections only a few notes, plus a few remarks on Greek houses, which seem to fare badly in textbooks mainly concerned with monumental architecture. The parapet of the Nike Temple is carved on the outward, not the inward face (p. 164). The Caryatid porch does have a door (or opening) through its parapet (p. 164); the stair to this porch from the interior ascends not descends (p. 166); and the intended rosettes on the architrave of the porch were never actually carved (p. 166). The Tegea capital (pl. 95A) and the arrangement of the cella need to be revised in the light of recent unpublished studies of B. H. Hill; the sculptured metopes were above the pronaos and opisthodomos, not on the exterior of the temple (pp. 191f).

On p. 240 L. makes the following general statement: "The typical Greek house . . . is secluded from the public view by a bent entrance, and one of its rooms is far larger than the rest." These statements, however, are certainly not true of the Olynthian or Delian houses, and L. does not in his discussion try to claim that the Priene type is the Greek type. "The heart of the city was crowded with blocks of mean little houses, separated by tortuous alleys: spacious houses were rare except in the suburbs outside the town walls" (p. 240); surely this is much exaggerated even for older cities like Athens, and is far from the case in Olynthos, Priene, etc. The evidence for women's quarters "shut off by a strong door" (p. 240) is not forthcoming from the excavated houses; it is not then a safe generalization and would apply only to very commodious mansions. The statement (p. 242) about the roofs of the houses in Olynthian blocks is not exact: the roofs ran continuously over the northern half of the houses; the court usually continued through to, or virtually to, the

south wall. The ideal entrance was not "a passage, straight or bent" (p. 242) but a porch opening directly into the court (*Olynthus* VIII, 152). There is no good evidence for a porter's room (p. 242) in the *Olynthus* houses; again this might be a feature of mansions (see *Olynthus* VIII, 210). The available evidence does not permit the unqualified statement (p. 243) that the north portico (pastas) of the court was taller as a rule than the others (*Olynthus* VIII, 146). The andron was not placed by choice (p. 243) near the entrance (see *Hesperia* 22 [1953] 201-03). A shelf (p. 244) is found in Hellenistic bathtubs but not at *Olynthus* (*Olynthus* VIII, 200, note 75). Latrines were not "usually situated in the court" (p. 244)—in fact never, to my knowledge (*Olynthus* VIII, 205f; XII, 180). "In almost every court stands an altar" (p. 244); perhaps, but there is evidence for this in only about 10% of the houses (*Hesperia* 22 [1953] 196). L. seems to see in the "paratactic" (*Olynthus* VIII, 146) *Olynthian* house plan a reflection of democratic principles, while the "hypotactic" Asia Minor houses were built in cities "still subject to tyrants" (p. 244); were Early Hellenistic Priene or Colophon ruled by tyrants? I must admit I can see little force in analogies of this sort; another more elaborate example is the comparison (p. 112) between Mesopotamian, Egyptian, and Greek temples and the geographical character of their respective homelands.

The emphasis placed on the architecture of the Bronze Age and of the Greek house for their importance in understanding monumental Classical architecture is one of the outstanding features of this volume. Since my own research happens to have been concentrated in these fields it has seemed proper to criticize these in some detail in the hope that this might prove useful in preparing a second edition. I certainly do not wish to leave the impression that the book as a whole is not a competent and scholarly piece of work. It is well arranged, generally clearly expressed, and full of suggestive ideas; I have learned much from it and would recommend it warmly for the use of university students. Two chapters of particular interest may be singled out: 15 and 20, "Niceties of Doric Design," and "Masonry, Vaulting, and Public Works." In discussing "refinements" L. very properly says that they were not intended merely to avoid optical illusions, as Vitruvius and other late authors say (p. 172). The Greeks were accustomed to sun-dried brick construction in their domestic architecture; "with eyes habituated to gentle curves they would have resented mechanical accuracy and repetition" (p. 175).

Another topic which is discussed and illustrated with unusual fullness, on the basis of the author's personal research, is Greek fortifications. My colleague, Mr. Winter, who has just completed a monumental and, I hope, soon to be published work on the same subject, regards L.'s treatment as excellent.

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THE PUBLIC PHYSICIANS OF ANCIENT GREECE, by Louis Cohn-Haft. *Smith College Studies in History*, XLII. Pp. 91. Northampton, Massachusetts, 1956. \$1.50.

The institution of public physicians, hired by Greek city states, is well attested by literary evidence (e.g. Plato) and by a number of honorary inscriptions for doctors, mainly of the Hellenistic Period. The practice has usually been interpreted, and lauded, as the provision of free medical care to the citizens at least. Cohn-Haft, however, in this Columbia dissertation is very dubious about such a view and argues that the interest of the state in public medicine was to secure a doctor whose fixed residence was guaranteed for a specified period. He is concerned only with the Greek city down to the period of the Roman Empire, for the institution is regarded as peculiar to its own society and to be studied only in its own social context. Thus the considerable amount of information from the Hellenistic Kingdoms and from the Roman Empire itself is largely excluded. The material for the study consists mainly of the epigraphical texts. Their evidence is synthesized in the main discussion and the texts themselves are indexed separately and listed in an appendix with bibliographical data and critical remarks. The mechanics of the study are clear and careful.

The discussion is presented in three parts: I, the identification of the public physician and his relation to medical practice, a useful summary of the physician's place in society, developing the points that it was generally a well paid and respectable profession, but that the training system did not produce enough practitioners to fill the needs of Greece; Athens and Cos may have been exceptional in this respect. It is pointed out that the Asklepieia did not remedy this shortage, for they did not offer proper medical care until the Roman period. In Part II the character of the institution is discussed and a good case made for the author's revision. In this connection some notice might have been taken of the possible existence of a hospital(?) in Athens (Crates frag. 15; Athenaeus 6.268a); to the reviewer, the general argument for a scarcity of physicians in Greece seems more convincing than Cohn-Haft's hypercritical treatment of some of the literary evidence (particularly of Plato's remarks on the selection of physicians, p. 57, n. 12 and p. 58). Part III deals with the position of the public physician in Roman Egypt, chiefly to deny any connection with the institution of the Greek city state.

In general the author's work is careful and the conclusions drawn valid. It is thus regrettable that the presentation is marred by a lack of maturity and urbanity. The discovery of misinterpretations, failures in purpose, sins of omission and commission in the scholarship of a subject is hardly new except to its more enlightened young practitioners; tacit correction is just as effective as the patronizing reiteration of a predecessor's faults to pad out text and footnotes. Also, it seems

preferable to demonstrate a mastery of methodology by practice rather than by preaching. In conclusion Cohn-Haft should reconsider his translation of the Greek of Diodorus 12.13.4 (p. 9—there is no idea of a requirement to seek out a public physician in the Greek).

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VORLÄUFIGER BERICHT ÜBER DIE AUSGRABUNGEN IN SINOPE, by *Ekrem Akurgal* and *Ludwig Budde*. *Türk Tarih Kurumu Yayınlarından V, No. 14*. Pp. 41, pls. 23. Ankara, 1956.

Our attention is naturally aroused by the thought of what excavations might reveal at Sinope, that great city of the kingdom of Pontus. This preliminary report of investigations undertaken by the Turkish Historical Society and the University of Münster from 1951 to 1953, however, scarcely does more than suggest possibilities. The excavators had ambitious intentions: they were looking for the traces in that area of the Hittites, Phrygians, and Kimmerians and for evidence of the date of Greek colonization. The results, in general, were meager. On the site of the Pontine city, they found no prehistoric remains and no habitation levels earlier than Hellenistic. Pottery from the cemetery was sufficient to give the outline of Greek relations with the peninsula. As Cook had noted for the whole area, nothing Greek appears before the late seventh century, when Corinthian aryballoi and late Orientalizing vases indicate that the traditional date of Eusebius for colonization, 630 B.C., is substantially correct. For the Greek expedition reported to have penetrated the region in 756 B.C., the excavators postulate mere pioneering. This historical evidence, though limited, is nevertheless important to all those interested in the early history of the Black Sea area.

The actual remains found so far are not really worthy of the site. A small temple with its altar, miscellaneous architectural fragments, moderately interesting pottery from the graves, a few late Hellenistic figurines hold limited appeal even for the professionals. A few objects should be noted. A fine bronze hydria of the mid fifth century B.C. is made important by its Argive inscription. Two early Roman marble heads should be entered into the lists where they belong. The most attractive piece to most readers will be the stele of the early fifth century that shows a seated woman to whom two girls bring spindles and a box. It is unusual in being framed by an Ionic naiskos. Akurgal sees it as an important example of the East Greek type of grave stele that forms the link between the Spartan hero reliefs and the late fifth century Attic gravestones. If his typological thread holds (an idea he had previously developed in his book on Lycian grave reliefs), this Sinope piece and its smaller and less attractive companion will find a significant place in the history of Greek sculpture. For the rest,

we can only hope that further excavations will reveal more of this important city.

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NEUE PELOPONNESISCHE WANDERUNGEN, by *Ernst Meyer*. (Dissertationes Bernenses Historiarum orbis antiqui nascentisque medii aevi elucubrant, edendas curavit A. Alföldi, Ser. I, fasc. 8) Pp. 88; Ill. in text 7, in plates 86; plans, vi. Berne, Francke, 1957. S. Fr., 19 (22 bound).

This is in a sense a supplement to the same author's *Peloponnesische Wanderungen* (Zürich 1939), based on subsequent surveys and even on some excavation, work done especially in 1954 and 1955. It contains corrections and other modifications of views expressed in the earlier work, and adds some details and some large blocks of data. Hence it does not itself give a sense of being a balanced whole, although it contains some well developed observations and a great many important more or less miscellaneous details. Jerome Sperling's "Explorations in Elis, 1939," *AJA* 46 (1942) 77-89, is another recent work to which Meyer volunteers modifications and which helps give perspective to Meyer's work.

In general Meyer's studies are devoted to a clarification of the ancient and modern topography of sections of the northwestern part of the Peloponnesos centering on Triphylia. The *Neue Wanderungen* is essentially a description of remains of antiquity still to be found throughout this area, and an attempt to infer from these and literary evidence the location of ancient settlements and their names. This kind of enterprise has a fine tradition in classical studies and, as in this particular study, can make available a great deal of useful information not easily discovered. Its ostensible purpose, however, the identification of ancient places, is so beset with uncertainties and difficulties as to make the effort somewhat unpromising and even less rewarding to criticize from a distance, since the arguments for or against any point depend on more or less chance discovery, from time to time. A good argument today is gone tomorrow, as Meyer's constant correction of his earlier work reminds us. The discussion of the location of Scillus, however, is something that may interest many.

In his actual reporting of the sites which he has examined, Meyer has done good work in providing valuable information about some sites that are hardly known, if at all. The most prominent is at a place called Platiana (which he identifies as ancient Typaenai). Here there are many easily distinguished and well preserved ruins—the fortifications, terraces, a theatre—which Meyer surveyed and explored by some excavation. The place is moderately extensive and most promising as a site to explore archaeologically, to give us material for a conception of ancient life in the

small provincial communities about which at present we know almost nothing. Considerably smaller but still promising is another site at Vrestos. There is also notice of some mediaeval work, including a notable Byzantine fort at Chrysuli.

In his descriptions Meyer emphasizes the importance of good surveying at the individual sites; it is extremely inconvenient that there is no general plan of the whole area showing the location of the sites discussed. This is especially bothersome in a book debating problems of topography.

It occurs to one to wonder whether Meyer was familiar with John Young's "Studies in South Attica," *Hesperia* 25 (1956) 122-46, with its discussion of provincial towers and their probable character as farm structures. This work would tend to incline one to examine and interpret remains in rural areas with a perspective different from the traditional one Meyer seems to follow. He does seem to have Roman villas in mind, as he identifies several sites as such, but yet more extensive traces of even this kind of economy might possibly be found if one could develop the right eye and kind of receptivity. These observations are not intended as critical but as interrogative; such remains may well exist and be distinguishable; it is not clear whether Meyer was interested enough in this problem as such to take the appropriate perspective in his interpretations.

One criticism that may worry only the reviewer: Meyer's use of the word "polygonal" in describing the masonry of fortifications and terraces seems wholly misleading. The masonry to which he applies this adjective usually consists of blocks of trapezoidal shape; what, then, would he call geometrically polygonal, multilateral stone-work?

On the whole one welcomes and commends this little book; it is not pretentious and is yet very informative and evidently embodies a great deal of work. One begins to suspect that these *Wanderungen* will lead to a broad, well-cited *Landschaft* with much solid and definitive stuff in it.

ROBERT SCRANTON

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MONUMENTA ASIAE MINORIS ANTIQUA, VOLUME VII. MONUMENTS FROM EASTERN PHRYGIA, by Sir William M. Calder. Pp. xlviii + 160, including five maps and 22 pp. of line drawings, + 30 plates. Publications of the American Society for Archaeological Research in Asia Minor, Manchester University Press. £4.4s.

It is gratifying to see that publication of the results of the American Society for Archaeological Research in Asia Minor is being completed, and that delays due to the war and inflation have not been fatal. This volume, and the eighth, which is still in preparation but should shortly appear, will complete the publica-

tion of work which began in 1925 and has been carried on since then.

Volume seven is primarily a collection of monumental evidence from Eastern Phrygia, an area comprising the western part of the Roman province of Asia, and part of the eastern part of the province of Galatia. Though the vast majority of the inscriptions are from grave monuments, other types of inscriptions are represented, ranging in date from the first to the fifth centuries A.D. Historians in the fields of Imperial Rome, Early Christianity, New Testament studies, Art and Symbolism, and Linguistics will all find information here worth their attention.

Although the primary function of the volume is the publication of the inscriptions themselves, Professor Calder's introductory chapter is itself of great importance and interest, providing the reader with what will no doubt be the definitive interpretation of the evidence for some time to come.

The first section deals with the determination of the extent of the Phrygian speaking population in the provinces of Asia and Galatia. The number of inscriptions containing Neo-Phrygian now stands at 100. Analysis of the language seems to indicate that Phrygian was obviously still alive and spoken even as late as the third century A.D. The limits of the Phrygian speaking territory are clearly definable on the southern, eastern and northern sides. On these sides the language border corresponds clearly with the ethnic borders. On the west, too, a limit can be found for users of Phrygian, but here it seems that the population west of this line was racially Phrygian although the advance of Greek culture had early extinguished the native tongue.

It can now be regarded as certain that the Antioch of the area is in Phrygian, not Pisidian, territory and that the manuscript traditions of the *Acts* which imply the latter are to be rejected. The surrounding territory is described by Luke as "the Phrygian and Galatian country," which turns out to be quite accurate. This territory, traversed by Paul on his second missionary journey, seems to have been known as Mygdonia. Likewise Iconion, although politically attached to Lykaonia, still considered itself Phrygian as both Luke and Xenophon consider it; this is clear from a local inscription in Greek and Neo-Phrygian. After a second section dealing with the topography of the area, the names of the towns and their location and the main routes through the area, Calder turns to a discussion of the light these monuments throw on linguistic problems. This volume brings to full publication about ten new inscriptions containing Neo-Phrygian; two more previously published are re-edited in the introduction and two unpublished curse formulae are also given. This brings the total of known Neo-Phrygian inscriptions to about 100. It now seems clear that *Tios* must equal the Greek *Διός* and that *βανεικος* cannot mean *γυναικί* since *δαδiti* is now clearly *γυναικί*. *δεως* and *ζεμελως* are dative plurals, and hence the latter cannot equal the Greek *Σεμελη* but is analogous to the Greek *χαμηλός*.

The incidence of Latin over the area as a whole is small. Of 1076 inscriptions only 18 are in Latin, 38 in Phrygian and 1020 in Greek, though the proportion of Latin to Greek in inscriptions from Antioch is nearly 7 to 10. Iconion, though after Hadrian's time a colony, shows little use of Latin. The Latin used was always of respectable competence; those who used it were obviously well-educated. Greek, on the other hand, varied greatly in competence. Some of it shows markedly the influence of Phrygian pronunciation and syntax.

The section on religion deals first with Phrygian paganism. Zeus, here an agricultural deity (cf. Acts 14:17) is the main god. Beside him is a mother goddess, called simply "Mother" or "Mother of gods." Her son, Attis, is in Greek inscriptions "Men." Apollo and the Nymphs appear and there are traces of the Imperial cult. It is clear that for the Phrygians the tomb is the "house of the dead person." Many inscriptions concern themselves about the possibility of violation of sepulcher, either by tomb robbers or by outsiders intruding an alien corpse into the family tomb. Several procedures were adopted in an effort to avoid this disaster. The tomb could be placed under the protection of a god; fines for violation could be stipulated, though usually divine retribution was depended upon. This was invoked either by appeals to the gods directly, or implicitly by the use of an emblem associated with the god, and by invoking terrible curses upon violators.

It is clear that this basic attitude to the tomb was continued in Christianized form by the Christians. In fact the graves of early Christians were indistinguishable from their pagan neighbours. It was only in later centuries as Christianity emerged from the underground that evidences of the faith could be openly displayed on tombs. The earliest epitaph which is recognizably Christian is that of Avircius, dateable to within a decade of A.D. 200. It contains a formula *ἐστὶν αὐτῷ πρὸς τὸν Θεόν* which later becomes popular in the middle of the third century. This is displaced by the Eumenean formula toward the end of the third century. Thus there is ample evidence for pre-Nicene Christianity throughout the area. Some are Montanists and two are Encratite (a teetotaling sect). The cross as a symbol is not found before the fourth century. Earlier symbols included the fish and the grapevine.

Any assessment of the work would be incomplete without a tribute to the obvious care and thoroughness with which it has been done. Furthermore, it is obvious that every effort has been made to make the material as useful as possible to as many types of enquiry as possible. The inscriptions are arranged in the text by provenance, but many other classifications are available through the excellent indices at the back. Every monument has been illustrated by a line drawing at least; a high proportion by excellent photographs of the originals or squeezes.

I have but one criticism: nowhere in the text, indices or illustrations, are there any indications of date, except in the few cases where these are given by the monu-

ment itself. It is obvious from the introduction that the editor has formed his opinions as to the relative dates of the various inscriptions; as *editor princeps* his opinions are of the highest importance. Without this vital information, the usefulness of the whole work is greatly impaired for any scholar from the outside who might wish to use it. Let us hope that Professor Calder will subsequently supply us with a chronological table, however general—in one of the journals, perhaps.

DOUGLAS D. FEAVER

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THE GENUCILIA GROUP: A CLASS OF ETRUSCAN RED-FIGURED PLATES, by Mario A. Del Chiaro (University of California Publications in Classical Archaeology, Vol. III, No. 4). Pp. 130, frontispiece, pls. 15, figs. 10. Berkeley and Los Angeles, 1957.

The latest contribution to the University of California Publications in Classical Archaeology is, like many of its predecessors in this worthy series, a thoroughly considered and well illustrated study of a small compact subject. It is also a doctoral dissertation with two not uncommon faults: the presentation is disproportionately elaborate for the importance of the material, and the arguments tend to be repetitious.

The Genucilia Group comprises a series of about 600 plates produced in Etruria chiefly in the fourth century B.C. Nearly half of the plates, which might better be described as shallow stemmed bowls, are decorated inside with a red-figured design of a woman's head, in profile, wearing a half or a whole sakkos, and almost invariably surrounded by a wave pattern. The remainder of the plates in the class retain the waves, usually in greatly diminished numbers, but substitute an abstract design for the head. An example now in Providence bears a dipinto, *P. Genucilia*, the name of a lady of presumably Latin family; this name was assigned to the group by Beazley in his *Etruscan Vase-Painting*, more than two pages of which he devoted to the Genucilia Plates.

In his expansion of Beazley's study, Del Chiaro has identified some thirty painters and groups, a depressing challenge to compilers of future *CVA* fascicules which include these deplorably ugly plates. But at least one interesting result has been the author's reward for his amazingly patient stylistic analysis, his careful plotting of proveniences, and his painstaking researches in Italian and other museums.

A follower of Meidias, he suggests, settled early in the fourth century B.C. in or near Falerii, and there he and his associates produced a few comparatively well-painted plates. Very soon thereafter, presumably because of the political difficulties between the Ager Faliscus and Rome, the painters moved to Caere, where they initiated an enormous series of plates which continued for about fifty years, the style becoming steadily

less Attic and more Etruscan. The plates of the same shape with patterns seem to have been produced throughout the whole period. About the middle of the century, apparently after the truce with Rome in 351 B.C., a new series of plates, with the same design of female head but clearly by an entirely different group of painters, began to appear at Falerii. The Faliscan plates, including also many with abstract designs, were made for about fifty years, coming to an incredibly degenerate end probably early in the third century.

Once he has segregated the Caeretan branch, the author notes the local elements in the style and such external characteristics as the kinds of earrings represented. From this beginning he postulates the existence of a flourishing school of painting at Caere, and promises a study of it which will make clearer the origins and relationships of several groups of Etruscan red figure.

HAZEL PALMER

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INSCRIPTIONES LATINAE LIBERAE REI PUBLICAE, fasc. 1, by *A. Degrassi*. La Nuova Italia, Florence, 1957. Lire 3000.

A new selection of Latin inscriptions of the Republican age, chosen and presented with Professor Degrassi's combination of the skills of epigraphist and historian, is of course something to be warmly welcomed. There was, indeed, a real need to be filled, for previous selectors of texts of this period have usually had the interest of the linguist rather than that of the historian as their guiding principle; and, in any case, even the most recent of them have hardly explored the material that has come to light since the publication of *CIL* 1² in 1931. But students of Republican history are now to be well served.

Of the two fascicules promised the first, considered here, contains the small group of inscriptions to be dated between the seventh and fourth centuries B.C. (among which is included the *Carmen Arvale*), the *Antiate Fasti* and *Calendar*, and sections for *tituli sacri*, *tituli magistratuum Romanorum*, milestones and other inscriptions concerned with road construction, boundary stones and *tituli militares*, rather more than 500 texts in all. And while the main source has naturally been *CIL* 1², there is also a great deal drawn from subsequent publications and even an occasional item that appears to be quite new (e.g. no. 484). Clearly Degrassi has been generous; it would in fact be difficult to find an inscription, properly falling within one of the categories named above and likely to be useful to students, that has eluded his care.

Many of the texts have been re-examined, and often the readings given are an improved version of what has appeared previously, whether in *CIL* or elsewhere. (This is notably so in the case of the inscriptions discovered since the Second World War in the Temple

of Fortuna Primigenia at Praeneste.) They are accompanied by introductions and commentaries in Latin. The introductions contain a brief description and history of the monument on which each text is cut, and a bibliography which makes specific reference to any published illustrations—information all the more important since the texts themselves are printed continuously (as in *ILS*) with the inevitable result that the original layout is obscured. Since many of the texts are fragmentary, this is a regrettable but no doubt necessary concession to economy. But was it really necessary, at the same time, that in a gap where the number of letters lost is uncertain no indication of the approximate length should normally be given? At any rate those who would experiment with restorations must turn to the earlier publications for some essential data. But perhaps this is no real hardship. Commentaries are on the whole designedly brief, but have been given more space on the more difficult and the more important texts so that they offer in fact a very adequate and balanced introduction to the major problems. Occasionally one might feel glad of a little more help, especially on some of the minor texts, e.g. with no. 231 on the completion of the name *A. Aimi(lius) Aimi(liae)* [L.] (where, incidentally, the drawing to which one is referred seems to show no space on the stone for the L), or with no. 236 on the unusual double filiation, or with no. 484 on the whole tenor of this new and fragmentary terminus. But this is rare. Some but not all of the abbreviations are completed, presumably those thought the more difficult, but not consistently so, for, e.g., if *Pe(tro)* deserves completion in no. 115 it does so again in no. 148. But again it is rare that this causes real difficulty.

There are a certain number of misprints, which indeed are hard to avoid in this kind of publication, e.g. in the note to no. 279 for C. read Cn., in note 5 to no. 309 for 259 read 298, in the second Greek text of no. 456 for [Λεύκιος] read [Λε]ύκιος. But on the whole the book is well produced and handy. It will of course be much easier to use when the indices appear in the second fascicule.

JOYCE REYNOLDS

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CATALOGO DEI RITRATTI ROMANI DEL MUSEO PROFANO LATERANENSE, by *A. Giuliano* (Monumenti Vaticani di Archeologia e d'Arte, Vol. X), Pp. xii + 103, pls. 64. Tipografia Poliglotta Vaticana, Città del Vaticano, 1957.

The Museo Profano of the Lateran, stepchild of the Vatican Museum, is probably the most neglected of the great collections of ancient sculpture in Rome. With its least regarded part, this Catalogue of Roman Portraits makes a worthy beginning of the systematic record of the whole collection. It presents one hundred portraits, ranging in date from the mid first century B.C. to the mid fourth century of our era, and with

them thirteen headless busts and torsoes and five indubitable forgeries.

It is in every respect an admirable piece of work, generously printed in the ample quarto which distinguishes this notable series. The author, who has hitherto drawn attention to certain *inediti* of the collection (*ArchCl* 3 [1951] 181-85; *RivlstArch* N.S. 2 [1953] 29-39), recognizes and gives the essential information about each piece. His commentary is both terse and well informed, pondered and reserved in judgment, and is able to rely on a full and exemplary photographic documentation of each item. Only three of the hundred are given but one photograph apiece. Of the others, twenty-seven are displayed in three or more views, while the rest are presented full-face and profile. Sansaini's photographs, uniformly posed at eye-level, evenly and softly lighted without sharp contrast, do full justice to modelling and texture and lend themselves to comparison.

The perfunctory portraits of the Julio-Claudians from the theater of Caere (nos. 28-39) and those from the tomb of the Haterii (nos. 51, 52) have long had a place in the history of Roman portraiture. Less well known but acknowledged masterpieces are the poetic late-Republican head (no. 6), Studniczka's "Vergil" (no. 10), the vividly fine-drawn Flavian lady (no. 45), Weber's pensive "Julia Paula" (no. 76), the tense, thin-lipped Gallienic lady (no. 96), and the harsh and astringent C. Caelius Saturninus Dogmatius (no. 99). To these may be added the pair of brilliant portraits recently studied by Giuliano: the unidentifiable poet or philosopher of nos. 4, 5 and the battered young Severan prince, no. 80.

Even more welcome is the bounty of forty-one portraits which the work presents for the first time. A number of these hitherto unpublished pieces are notable works of art. To single out a few, no. 21 is the sensitively academic likeness of a girl of the principate of Gaius, no. 60 a boldly sketched old lady in the tradition of the portraits of the Haterii. No. 58, if it represents the young Aelius Verus, is a fluent precursor of the Antonine baroque. But it is the middle decades of the third century to which these new faces chiefly bring light. Our conception of the spiritual resources, of the power and virtuosity of the portraitists of that tormented age is enlarged and enriched by half a dozen masterpieces. They begin with the grimly compressed delineations of a man and woman (nos. 87, 88) of the 30s or 40s of the century and end with the bitterly composed resignation so delicately conveyed by no. 97 of the 70s. Between stand three portraits (nos. 91, 93, 95) of the age of Gallienus, whose naked expressiveness reveals the artists' unhampered mastery of their tools and of their material.

FRANK E. BROWN

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GLASS FROM THE ANCIENT WORLD. The Ray Winfield Smith Collection. A Special Exhibition, 1957.

Pp. 298, pls. 9, figs. The Corning Museum of Glass in the Corning Glass Center, Corning, New York, 1957. \$3.00.

A collector usually has neither the time, the ability, nor the inclination to publish his own collection; customarily he gets a specialist to do the job for him. Ray Winfield Smith, the possessor of one of the great glass collections of our time, is distinguished by being a scholar as well, and he himself prepared this handbook in connection with the exhibition of his collection at the Corning Museum of Glass in the summer of 1957.

While much of the Smith Collection has been exhibited before, the Corning Museum was the first to show it in its entirety and to exhibit it in an unusual and instructive manner. Drawings explaining various techniques were made especially for the exhibit, were shown in association with the glass vessels, and the result was most informative and illuminating.

The Smith Collection is notable not only for a large number of prized pieces, many of which have been well known for years, but also for the numerous fragments it contains, which are important for students of the subject. Mr. Smith does not fail to mention these in his publication, which is more detailed than the ordinary exhibition handbook, and correspondingly more useful. The collection includes glass dating from the fifteenth century B.C. through the twelfth of our era—a long span during which many techniques were invented, popularized, abandoned and sometimes revived. To cope with this wide range of material the author decided on a dual classification—chronological within broad periods, and within these by techniques. For each period he presents the "historical and technical development," followed by a catalogue arranged according to the method of manufacture. This system works well enough for those who can look at the objects and then consult the handbook, but it is not altogether satisfactory for those who must use the book alone. A given piece is sometimes difficult to locate, especially when its date is doubtful or overlaps two periods. Perhaps if Section II (second century B.C.—first century A.D.) and Section III (second to fourth centuries A.D.) had been consolidated, a good deal of the difficulty would have been avoided.

In assigning dates to certain pieces the author is extremely cautious. In view of our presently incomplete knowledge of glass, and the fact that each year brings to light information which is often startling, this caution is wise. Such a term, however, as "middle of first millennium B.C." sounds strange when we realize that it refers to a well known historical period. It would have been better, perhaps, to say "sixth-fifth centuries B.C."

The Smith Collection includes a remarkable number of highly important and, in some cases, controversial pieces. No. 49, a beautiful oval plate, is described as "cut from heavy blank"; it seems to me to have been molded, with the relief decoration tooled out

and then slightly cut. Well attested second century (A.D.) fragments from the Athenian Agora (unpublished) seem perfect parallels. No. 52 is certainly early in date, but, contrary to the statement in the handbook, it is *not* very much like the bowl recently excavated at Gordion. The glass bowl found at Ephesus (Fossing, *Glass Vessels before Glass Blowing*, p. 84, fig. 54) seems a much better parallel. No. 53, a puzzling and interesting bowl, was assigned to the first century B.C. in Mr. Smith's Maricmont catalogue. This (or second century B.C.) seems a more likely date than "second half of first millennium B.C.," as it is now given.

A wealth of comparative material is offered throughout the handbook, but the occasional lack of documentation will make the references hard to find unless one is thoroughly familiar with the material. On the whole the volume is an excellent production (and one should not fail to mention the generous amount of excellent photographs)—a major addition to the now rapidly growing literature on glass.

GLADYS DAVIDSON WEINBERG

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DIE PORTLANDVASE, by Erika Simon. Pp. 87, pls. 38. Römisches-Germanisches Zentralmuseum zu Mainz, 1957.

This is a most interesting book, full of valuable material. Not only does it suggest a new and attractive solution to the age-old problem regarding the subject represented on the Portland vase, but it sheds light on related examples in cameo glass and cut stone. In a closely reasoned text, accompanied by a wealth of illustrations, the author leads us step by step to what seem—to the reviewer, at least—eminently reasonable conclusions. And though these conclusions are new and mostly contradict former interpretations, the tone of the investigation is essentially non-polemic. Former studies are used not as matter for controversy, but as stepping stones to reach new knowledge.

Let me try, in the short space allotted to this review, to summarize Miss Simon's suggestions: The subject of the Portland frieze is to be interpreted—yes, as suggested by Winckelmann, Overbeck, and others—as a *Hieros Gamos*, but not, as thought heretofore, in the sphere of Greek mythology (Peleus and Thetis, Zeus and Leda, Orpheus and Eurydike, Hades and Persephone), but as an incident in Roman history. On one side is Apollo who beholds the beautiful Atia reclining under a fig tree in the presence of Venus (Genetrix); on the other Apollo steps from his sanctuary to join the waiting Atia, a flying Eros leading the way, and a Roman divinity or hero (perhaps Romulus-Quirinus) watching the fateful encounter. In other words, the story of Augustus' divine origin (cf. Suetonius, *Aug.* 94.4, and Cassius Dio 45.1) is here linked with similar scenes of Greek and Roman mythology—

a god visiting a mortal, and a hero, Achilles or Romulus, being born of the union. Everything in the two scenes is made to connect with this interpretation—the dragon-like serpent, the laurel tree, the fig tree, the pillar, the torch, the loose slabs, the Pan-like handle attachments; and the comparative material brought to bear on the problem is not only ingenious but apt: for instance the sleeping girl visited by a serpent on late Republican gems; Mars and Rhea Silvia on Roman sarcophagi; the Apollo-like features of Augustus on Roman coins, etc., etc.

Miss Simon admits that the objects on extant cameo glasses are practically all non-historical, either taken from Greek mythology or daily life, but she argues with great acumen that on the comparable cut-stone vases one finds similar representations; and then proceeds to interpret the onyx vases in Berlin, Brunswick, and Saint-Maurice as incidents in the life of the Julio-Claudian family: the *lustratio* of a new-born prince, Nero as a neo-Triptolemos, and the mourning over the death of young Marcellus. That a Greek myth should be used to symbolize an event in Roman history seems not unnatural. One may remember in this connection the use of both Greek myths and Roman historical events (Augustus receiving tribute from barbarians, and Tiberius in a triumphal chariot) on silver cups of identical type found together at Boscoreale. At all events, though the clinching evidence in the form of indisputable attributes of the several personages on the Portland vase is absent, and a few difficulties remain (for instance, the loose slabs in scene 1), Miss Simon's interpretation is the best hitherto advanced. The Peleus and Thetis theory will no longer serve. The only alternative is to take recourse to the question mark and say that an unknown myth is represented. Incidentally, it is a relief to be able to dispense with the youth in the Phrygian cap and to restore the amphora as pointed at the bottom, like the one from Pompeii.

Also of special value in this book are the illustrations and discussions of cameo glass regarding its derivation from Ptolemaic predecessors and its vogue in Roman times, as well as the appendix with a catalogue of the extant examples, arranged by Museums. Whether all the pieces thought to be modern are actually so remains to be investigated. The plaque in New York with a sacrificial scene, cited by Miss Simon as "nicht antiken Ursprungs" (p. 80), certainly looks queer, but it comes from a good source, the old Gréau collection, and Froehner in his catalogue of that collection states that it was found in Rome. The Gréau glass is now in New York, given by J. Pierpont Morgan. It contains over 20 pieces of cameo glass, several of considerable importance; and so the contingent listed as in New York (p. 78) can be considerably increased.

GISELA M. A. RICHTER

ROME

CENTRAL GAULISH POTTERS, by J. A. Stanfield and Grace Simpson, with preface by Eric Birley and drawings completed by Wilfred Dodds. Pp. 300, figs. 51, pls. 170; Oxford University Press, 1958; \$20.20 (£6/6/ "in U.K. only").

Stanfield's beautiful drawings of Gaulish terra sigillata became increasingly familiar to scholars from 1929 until his death in 1945, at which time he left additional drawings for about 150 plates illustrating Central Gaulish pottery found chiefly in Roman Britain. Commencing with the relatively modest project of publishing the Central Gaulish signed and decorated bowls in the London Museum, his purpose grew, with encouragement from Eric Birley, to the illustration of all Central Gaulish decorated ware found or housed in Britain and some comparative material from elsewhere, together with a text identifying many undifferentiated potters, their individual motives and styles, their distribution in Britain, their chronology, etc.

Had the resulting book been entitled "Decorated Sigillata of Lezoux in Britain," the contents would have been more accurately described. For only decorated wares and their potters are considered at all; the plain wares are not a part of the study. Furthermore, the list on pp. 293-95 includes names of 56 Central Gaulish potters, some of them important, who are "not studied in the present book" because their wares did not penetrate to Britain, and efforts to use Continental evidence were not always successful. Third, despite references to the courtesies of M. Terrisse, the excavator of Les Martres de Veyre (*Germania* 32 [1954] 171-75), this great ceramic center receives comparatively little attention; and another great center at Toulon-sur-Allier, of which to be sure the last "publication" was in 1860, is mentioned only once in the index and is omitted altogether from the map, fig. 1. Doubtless Lezoux was the predominant center of Central Gaulish manufacture, as has been supposed for over half a century, but it also had the advantage of a Plicque to excavate it, and of a Déchelette, an Oswald, and now a Birley to ensure its scholarly treatment; it may well be that we have overestimated its significance *vis-à-vis* Les Martres, Toulon and other contemporary Central Gaulish sites.

Finally, while the British sites have been exhaustively and systematically exploited—many of them for the first time in conveniently accessible form—and many more sites in France and Germany have also been extensively treated, and while Birley's travels on the Continent have added incidental comparative material from various sources, nevertheless, neither Stanfield nor Miss Simpson visited the key excavations and museums across the Channel. Not merely would a *Studienreise* have tightened up a good many statements in the text and have added to the plates, but in the larger sense a book so comprehensively entitled should take account of more than two of the Swiss museums, and should not virtually ignore the Danubian sites and their pub-

lications. Paul Karnitsch's contributions to *Forschungen in Lauriacum I-III* (1953-55), some of which appeared too late for use, would have provided especially valuable comparative material.

However, within these limitations upon an infelicitously broad title, the work commands unstinted praise. Miss Simpson was uniquely qualified by inherited interest and scholarly training to pick up the text where Stanfield had left off; Wilfred Dodds was more than equal to the task of extensively supplementing the plates and text-figures with over 1,800 more drawings; Birley meanwhile secured financial assistance from the University of Durham at all stages and contributed many suggestions drawn from his profound knowledge of all aspects of Roman Britain and especially of Corbridge, and his intimate acquaintance with Stanfield's thinking. *Forté quadam divinitus* this book is the result of collaboration between these experts and others who have contributed in lesser ways.

For the future study of Central Gaulish pottery the book is absolutely indispensable. Without pretense of supplanting Déchelette's and Oswald's illustrations of figure-types for which, if anything, it should actually increase the demand, within its limits it supersedes Oswald and Pryce, *Terra Sigillata* (1920), and it gives new precision to much typology and chronology in a very large and important field hitherto somewhat chaotic.

This review cannot discuss individual problems in detail, but it is worth recording another fragment in the Donnaucus style from the Phoenix Assurance Co. site, King William St., London, of which the owner, Mr. Arch. M. Howell of Montreal, kindly sent the reviewer a cast some years ago. It appears to be the lower part of a bowl from the same mold as Stanfield-Simpson pl. 49 583 (Waddington Coll., no provenance); if the attribution is correct, we can now add an intentionally mutilated recumbent version of the warrior Oswald Type 196 to the repertory of Donnaucus, who is common in London.

HOWARD COMFORT

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VILLAGES ANTIQUES DE LA SYRIE DU NORD: LE MASSIF DU BÉLUS À L'ÉPOQUE ROMAINE (Institut français d'Archéologie de Beyrouth, Bibliothèque Archéologique et Historique, vol. 50), by Georges Tschalenko. Vol. I, pp. xvii + 442; vol. II, pp. 16, pls. 212; vol. III, not yet issued. Paris, Librairie Orientaliste Paul Geuthner, 1953, 1955.

With every year that passes, it becomes increasingly clear that the process of "Romanization" within the Roman Empire was rarely, if ever, a simple matter of the imposition of civilized practices and equipment upon backward peoples; unlike the colonialism of the nineteenth century, it was everywhere (or in course of time everywhere became) a complex process of mutual

assimilation, in which every corner of the Empire, however remote and seemingly insignificant, had a part to play and a contribution to make. Every year, too, the growth of archaeological knowledge is bringing into sharper definition the innumerable local units of which the Empire as a whole was made up. We can see that while there was undoubtedly a steady progress towards a common set of standards, so that by the age of Constantine the Mediterranean world was nearer to achieving a unity of culture than ever before or since, the very fact of the growing assimilation of the smaller peripheral units gave them an increasingly important role in shaping the over-all pattern of late antique civilization and ideas; and it only requires a moment's reflection on some aspect of provincial civilization about which we happen to be well informed (e.g. Phrygia or Numidia and the development of Christian thought, or the northern provinces and the development of late antique decorative art) to appreciate how substantial this contribution might be. At the same time, however, there was also a steady process of devolution. By the fourth century the link with Rome was no longer one of provincial dependence. The provinces had become an organic part of "Rome" itself; and if, in the process, the Roman world had lost something of its exclusively classical heritage, it had taken on a shape and gained a vitality that enabled it to transmit a great deal of what remained to later centuries.

One of the principal needs of historian and archaeologist alike is, therefore, a series of authoritative regional surveys that will enable him to envisage those smaller units in their proper perspective. For this reason alone the volumes under review would be very welcome, even if they were only one half as good as in fact they are. They are the first two (text and illustration) of a set of three volumes devoted to the remains, predominantly architectural, of north-central Syria, the region of the well-known deserted villages and townlets of the limestone massif north of Hama and inland from Antioch and Laodicea, of which de Vogüé was the first to give a scientific account. Volume III will contain the appendices (site-plans, inscriptions, lists of convents and of medieval remains) of which the illustration is already included in volume II; also the indexes and accompanying maps.

After two introductory chapters on the Limestone Massif in antiquity (a useful summary of the architectural practices and types of monument encountered) and on Natural Conditions (geographical subdivisions, communications, water-supply, soil, agriculture), the main body of the text is devoted to a survey of the surviving remains, arranged topographically and lavishly illustrated with maps, diagrams, plans and photographs. Both text and illustration emphasize the close dependence of all manifestations of human activity upon the geographical conditions. This was, and always has been, marginal territory, inhabited during periods of strong central government, when the crops (predominantly olives) for which it was best suited could

find a stable market, but much of it uninhabited when conditions of insecurity enforced subsistence farming and the cultivation of cereals; it is an interesting commentary on the disasters and difficulties that beset the later Roman Empire that, at a time when other more central and more vulnerable regions were in full decline, some of these outlying territories (we may compare the hinterland of Tripolitania) were just beginning to reap the full advantages of the organization created by Rome.

Chapters III and IV constitute the core of the volume, and present a detailed picture of the several regions of the massif and of a number of characteristic villages and sites within each region. All are liberally documented with maps and diagrams, together with plans and axonometric drawings (to a uniform scale) of every type of monument. An interesting newcomer to the architectural repertory is the village hall or *andrôn*, clearly the local equivalent of the *basilica*. Other items of unusual interest are the oil-pressing establishment at Behyo, the description of the early convents of the Dāna plain, the period plans and drawings illustrating the development of such monuments as the great complex of Qal'at Sim'ān or the church at Qirqbīze; and in general the demonstration of the sequence of development in the highly characteristic local domestic and funerary architecture.

The concluding chapter, "A Rural Civilization," is an attempt to generalize upon the evidence thus presented. For the general reader this will be the most interesting section and, in a book that bristles with facts and opinions alike, it is bound also to be the most controversial. For example, does the evidence really justify the interpretation of the villa at Bamuqqa (pp. 300-18) as the occasional residence of an absentee capitalist under the Early Empire, exploiting the whole area which, two or three centuries later, we find divided up among the farmers of the late antique village? Is not the picture painted of the envelopment of the primitive village of Qatura by the villas of wealthy resident proprietors, representatives of a class of owners established by an act of official policy (pp. 381-82), both an exaggeration of the demonstrable facts and an over-dramatization of a process that was happening spontaneously all over the Empire, whereby retired soldiers and minor officials were returning to occupy positions of wealth and prestige in the villages of their birth? Is it right to exclude the effects of deforestation as a contributory factor in the creation of the conditions that have dominated the pattern of medieval and later settlement? Because Butler and others were wrong in maintaining it to be the only or even the principal cause, it is surely a mistake to conclude out of hand that it had no part whatsoever to play? To cite controversial topics of this sort (and the number could be greatly extended) is not to belittle the value either of the ideas or the facts presented, both of them the product of an intimate and minutely detailed knowledge of the countryside and its monuments. It is well to recognize, however, that

this very personal viewpoint, while adding a stimulating fresh dimension to the archaeological material presented, does at times inevitably add an element of the subjective to the manner of its presentation. This is an invaluable repository of new facts and new ideas—but both need to be used with discretion.

Both volumes are admirably reproduced and, apart from an annoying habit of cross-referencing by chapter and section rather than by page, easy to use even without the indexes. They reflect the greatest credit both on the author and on M. Henri Seyrig, who initially inspired the work that they record and whose hand guided them safely into port.

JOHN WARD PERKINS

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THE VICTORIA HISTORY OF WILTSHIRE, Vol. I, Pt. I, by L. V. Grinsell and Joyce Gifford. University of London, Institute of Historical Research. Oxford University Press, 1957. 5 guineas.

This admirable volume is the product chiefly of the "corpus" policy of Professor C. F. C. Hawkes, applied to a regional study, of the industrious research of Mr. L. V. Grinsell and the geological studies of Mrs. Joyce Gifford, backed by the generosity of the Wiltshire Victoria County History Committee. To all of these the highest praise is due.

The first part is an illuminating article on "The Physique of Wiltshire" by Mrs. Gifford. The great chalk area of Wiltshire is here classified into "Summit Areas," "Higher Plain" and "Lower Plain," representing different stages in the lowering of the ancient sea-level. The interesting point is made that the capture of drainage by westward-flowing rivers has lowered the water-table in the chalk since early times, with consequent modification of the water-supply.

A valuable feature is the series of nine distribution maps on a scale of 1/4 inch to a mile, indicating the occurrence of field monuments and movable objects of every period from the Palaeolithic to the Pagan Saxon. The archaeological symbols in each period-map are superimposed on a morphological base-map specially prepared by Mrs. Gifford.

The main substance of the volume consists of an archaeological gazetteer. Wiltshire is an outstandingly rich county archaeologically, and this monumental compilation, unprecedented in its scope, is a remarkable testimony to the careful industry of Mr. L. V. Grinsell, who prepared it. The gazetteer comprises an excellent general section, in which small finds and sites not included in the special lists, are briefly described, with national grid-references and notes of the present locations of movable objects. There follows an exhaustive catalogue of Wiltshire barrows, classified according to type, which occupies over 90 pages, and is succeeded by an analysis of burial-rites in relation to associated grave-goods and barrow-types. Final-

ly there are inventories of Ditches, Enclosures and Hill-forts, and Field-Systems.

In a work of this kind, comment must be concerned with presentation rather than with matter, and the presentation in this volume is exemplary. To some extent the Maps present a summary in immediately comprehensible form of the whole content, and to these, therefore, special attention may be paid. The one serious oversight in the whole book occurs in connection with Map IV (Middle Bronze Age). Here boxes enclose the Avebury and Stonehenge areas, with the legend "For this area see enlarged plan." The enlarged plans, however, are not to be found.

These excellent maps bring out many points of interest, such as the dramatic concentration of Bronze Age barrows near Stonehenge (but not in the Avebury area) associated with the continued sanctity of the site into the Bronze Age which is shown by the later structural phases. The map for the Romano-British period shows a striking increase of the area under cultivation as compared with the Early Iron Age, though field-systems still occur almost entirely on the (unmanted) chalk plain. How far this apparent increase is genuine, and how far it is due to better preservation in recognizable form of the later systems, may be debated. Another interesting feature of the same map is the way in which the survival of native tradition is attested by the predominance of inhumation burials except near Roman towns.

It might be argued that to show bowl-barrows with inhumations on the Early Bronze Age Map (Map III) only, although some of these burials contained objects typical of the Wessex culture, which are otherwise shown on Map IV (Middle Bronze Age), is inconsistent, but in practice an arbitrary allocation of inhumations to the Early, and cremations to the Middle Bronze Age, may be justified. This matter may be made clearer in Part II, where also the classification of Penannular brooches (Map VII) and palstaves (Maps IV and VI) may be expounded. The definitions of the latter given on p. 21 are hardly adequate.

A distribution-map is most useful when it is used to illustrate a specific argument. In a reference-work its use is limited by the difficulty of relating any specific symbol to the corresponding, and relatively detailed, entry in the accompanying inventory. In the volume under review the difficulty is minimized as far as the principal types of field monument are concerned, since these are classified by types in the Gazetteer. The difficulty remains, however, with the movable objects. Thus the occurrence of Belgic coins, for instance, is indicated on the Early Iron Age map, but it is very difficult for the reader to find the entries in the Gazetteer for specific examples, should he wish to establish their precise type and associations. (The "Belgic" coins shown south and west of the Wylye, at least as far as these can be checked, are in fact Durotrigian.) An index of movable objects, at least of the more common forms, arranged by types, with references to the Gazetteer entries in which they occur would supplement the

Gazetteer and the maps and would substantially increase the already immense value of the work. I offer this comment in no spirit of criticism; no doubt the Editors considered the idea, and found that such an index, compact though it might be, would increase the bulk of the volume beyond the limits of practicability.

In conclusion, I would repeat that this is a fine work, and doubly welcome, not only as an immensely valuable work of reference, but also as the herald of a sequel in which this rich material will be interpreted, and which, we may be sure, will be of the same high standard.

J. W. BRAILSFORD

THE BRITISH MUSEUM

WITH PAUL IN GREECE, by *Robert S. Kinsey*. Pp. 203, pls. 16. Nashville, The Parthenon Press, 1957.

This author is interested in the relations of Paul with the churches the Apostle founded in Greece. The book covers the history of Acts 16:9 to 18:19. Kinsey himself has followed this route through Macedonia and down into the region of Athens and Corinth, and he describes both the conditions of modern travel and the travel situation Paul faced. Out of his study and travel Kinsey brings observations concerning archaeological discoveries which throw light on the New Testament. He takes up the letters of Paul to the churches in Philippi, Thessalonica and Corinth, and in a concise way follows the content of each letter. He also takes up words or expressions which are illuminated by Greek usage found in inscriptions or papyri or other ancient documents. The nature and purpose of the book does not allow for much detail on any one archaeological site or discovery or on any one Greek word, but the author throws light on the New Testament in scores of ways. His book is not a report of original archaeological work but rather a popular presentation of what such work has brought to light.

The enthusiasm of the author and his vivid reconstruction of New Testament scenes have their value. In two respects his presentation may be too enthusiastic. Would Paul really have looked with great cultural interest, as Kinsey thinks, on some of the places described? Would he have voted for Athena rather than Poseidon as ruler of Athens, since she gave Athens the olive tree? I cannot find in Paul any enthusiasm for polytheistic culture or any hint of approval for the goddess because of a mythical gift to Athens. Again, while we must consider the origin of Greek words, can we be sure that Paul always thought of the original meaning when he used a word? It is not certain that *δυσανέω* is derived from *konis*, "dust." But even if it is, we can hardly assume that Paul or other first century Christians who used the word thought of that root meaning. Usage and current meaning are the important matters.

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GOLGOTHA AND THE CHURCH OF THE HOLY SEPULCHRE (Studies in Biblical Archaeology, No. 6), by *André Parrot*. Pp. 127, pls. 11, figs. 29. Philosophical Library, New York, 1957. \$2.75.

The author of the present volume is well known in the scholarly world as Curator-in-Chief of the French National Museums, Professor at the École du Louvre, and Director of the Mari Archaeological Expedition. The volume forms part of a series, originally published in French, now translated into English as "Studies in Biblical Archaeology," which at present includes five other volumes by M. Parrot. The volumes are designed for the general public and for travellers, and they aim to present in easily readable form the results of scholarly research, with abundant illustration and careful documentation. By devoting his learning and literary skill to a series of attractive and portable books of this kind, M. Parrot has rendered an important service which will not only respond to the perennial interest in Biblical archaeology, but help to promote the support of archaeological work.

In the study of Christian antiquities, no problem has been of greater concern than the establishment of the true location of Golgotha and of the Tomb. The problem has become especially difficult because the growth of Jerusalem in antiquity resulted in major alterations of the terrain of the city, and the constant occupation of the area has not been conducive to the preservation of topographical evidence which in the matter of the place of crucifixion and burial would have been slender to begin with. When the traditional site was rediscovered in the time of Constantine the Great, the emperor's elaborate building operations destroyed valuable topographical features, and the successive transformations of the Church of the Holy Sepulchre have only brought added difficulties.

M. Parrot lets us see how all this came about. He shows that the traditional site is very likely authentic, and that the arguments of General Gordon for another location of Calvary, with the so-called "Garden Tomb," have no real value.

It is a misfortune that this work was not able to take into account the important results of the study of Kenneth J. Conant, "The Original Buildings at the Holy Sepulchre in Jerusalem," *Speculum* 31 (1956) 1-48.

GLANVILLE DOWNEY

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LIGHT WEIGHT SOLIDI AND BYZANTINE TRADE DURING THE SIXTH AND SEVENTH CENTURIES, by *Howard L. Adelson*. Numismatic Notes and Monographs No. 138. Pp. ix + 187, pls. xiv. The American Numismatic Society, New York, 1957.

Dr. Adelson is not the discoverer of the light-weight solidi, but he is the first scholar to make real sense of them, which is no mean achievement. Recognition of their identity as a distinct and legitimate imperial issue goes back to 1910, and they have been discussed occasionally since; but only now has the series as a whole been examined with the thoroughness it deserved. The results well repay the effort.

Compiling a thorough catalogue from coin-cabinets and published sources and eliminating duplications where recognized, Dr. Adelson arrives at a total of 183 coins, both authentic Byzantine issues and barbarian imitations, struck in the names of all emperors between Justinian I and Constantine IV. Subjecting these to careful study and rigorous statistical methodology, he is able to establish a series of interesting points about them: 1) Of the metrically valid authentic coins, there are three groups, struck to theoretical weights of 20, 22 and 23 siliquae or carats (the normal solidus was struck at 24 siliquae); each of these had distinctive exergual inscriptions indicating these weights, and distinguishing them from full-weight coins. 2) Finds of these light-weight solidi (which are also of slightly debased gold) circle the borders of the Empire, but are particularly concentrated in hoards in the Ukraine, and a series of finds along the trade route from the head of the Adriatic over the Alps near Lake Constance, and down the Rhine to Frisia; the only exception to the peripheral location of the finds is a hoard found at Hama in Syria. 3) The addition of a mint-mark on one group of coins, including some of those found at Hama, is interpreted as that of Antioch; the other mint for the series was almost certainly Constantinople. None of the authentic coins show Western stylistic traits, but most were obviously struck for use in trade with the West.

Drawing upon this information, Adelson arrives at a series of conclusions which he relates to the well-known Pirenne thesis about early mediaeval trade. He suggests that the innovation was made when the Persian Wars first cut off normal Byzantine trade to the East (the first issues seem to have been struck, on the evidence of Procopius as well as the coins, just before 550). The issue of these coins continued then for exactly the period during which Byzantine policy made special efforts for trade with the western barbarians desirable. Avoiding Gaul, where the Merovingians and later the Franks were minting on their own, the light-weight pieces circulated especially over the trade route to the North Sea, following the Rhine. In special circumstances, of course, these coins might also be used wherever similar situations existed, as in the Ukraine in the seventh century before the Bulgar invasion. In all cases, special marks insured against confusion with regular imperial issues, which alone were permitted to circulate within its boundaries. Thus the light-weight coins served the purpose of stimulating foreign trade without depleting to as great an extent as otherwise the diminishing imperial gold reserves.

Like any such pioneering effort, Dr. Adelson's study

leaves some questions unanswered, some points omitted, as a careful perusal of the preceding paragraph may already have revealed to the informed reader. This is not the occasion to supply a thorough critique of the work as a whole, especially since Mr. Philip Grierson is preparing just such an essay for early publication in the *Byzantinische Zeitschrift*. Suffice it to say that, whatever modifications and amendments may be subsequently made, Dr. Adelson has supplied a stimulating and penetrating study which sheds much light upon imperial fiscal policies and external trade during the Dark Ages.

JAMES D. BRECKENRIDGE

THE BALTIMORE MUSEUM OF ART

METHOD AND THEORY IN AMERICAN ARCHAEOLOGY, by Gordon R. Willey and Philip Phillips. Pp. x + 270, figs. 2. University of Chicago Press, Chicago, 1958. \$4.75.

This is a rewritten and revised version of two articles published by the authors in 1953 and 1955 (*American Anthropologist*, Vols. 55 and 57), plus an introduction originally published by Phillips in 1955 (*South-western Journal of Anthropology*, 11). The book is divided into two principal parts, roughly paralleling the coverage of the original articles.

In the Introduction, American archaeology is identified as anthropology and the basic assumptions are made that anthropology is more science than history and that its subject matter is both society and culture. In operational terms, archaeology can be considered on three levels; field work (observation), culture-historical integration (description), and processual interpretation (explanation). Archaeology is identified in general with cultural anthropology on the descriptive and explanatory levels.

Part I is called "An Operational Basis for Culture-Historical Integration." Chapter I considers "Archaeological Unit Concepts," accepting *site*, *locality*, *region*, and *area* as appropriate *spatial divisions*; *component* and *phase* (together with *sub-phase*) as "basic archaeological units." Consideration is given to "temporal series" (with definitions of *local* and *regional* sequences) and to "integrative units" including *horizon*, *horizon style*, *tradition* (and *co-tradition*), and *climax*. A diagram (fig. 1) illustrates the integration of various of these units. Chapter 2 discusses "Archaeological Integration," with especial attention to *area synthesis*; to the "maximum units" *culture* and *civilization*; and to the problem of equating archaeological units with appropriate social units.

Part II, entitled "Historical-Developmental Interpretation," is an ambitious attempt to survey New World culture history through consideration of liberal samples of American archaeological data representing all areas and periods. Admitting that none of the archaeological units defined and accepted in Part I

provide an operational basis for such a survey, the authors establish an additional major unit, the *cultural stage*. The New World historical-developmental sequence is then surveyed in terms of five such cultural stages, the Lithic, Archaic, Formative, Classic, and Postclassic stages.

The authors also consider the hypothetical "Lower Lithic" percussion tool stage supported largely by Alex Krieger. Their "timid conclusion" (p. 84) is that the evidence does not justify the establishment of such a stage. The Lithic is defined as "the stage of adaptation by immigrant societies to the late glacial and early postglacial climatic and physiographic conditions in the New World" (p. 80).

The concept of a continental Archaic stage of culture in North America is now generally accepted. Willey and Phillips reinforce this concept, define the stage as "the stage of migratory hunting and gathering cultures continuing into environmental conditions approximating those of the present" (p. 107), and expand it to cover related Mesoamerican and South American cultures. The authors specifically reject, on the evidence, the concept of lower and upper Archaic divisions (based principally on the presence or absence of polished stone tools), a hypothetical division favored by a number of American archaeologists, including the reviewer.

Willey and Phillips regard the shift from Archaic to Formative as the significant New World "cultural hinge." Noting that during the late Archaic where food supplies were adequate, certain local cultures developed relatively large and stable populations with material wealth and a degree of religious and sociological complexity, they point out that with the fundamental Archaic-Formative shift from a hunting-gathering economy to one based on agricultural food production such situations became the rule in most areas of the Americas. The Formative stage is defined "by the presence of agriculture, or any other subsistence economy of comparable effectiveness, and by the successful integration of such an economy into well established sedentary village life" (p. 203).

Urbanism is regarded as the primary diagnostic of the Classic Stage, together with such qualitative criteria as "excellence in the great arts, climax in religious architecture, and general florescence in material culture" (p. 182). The Postclassic stage is characterized by "breakdown of the old regional styles of the Classic stage, by a continuing or increasing emphasis upon urban living, and, inferentially, by tendencies toward militarism and secularism" (p. 193).

This book is perhaps misnamed. Part I is a relatively clear and uninspired discourse on generally accepted theoretical principles in American archaeology. Such discourses have a tendency to reflect accepted practices in the field rather than serve as vanguard pronouncements. Part I of this book will be a convenient reference work, not so Part II. Part II is a magnificent, daring, and intuitive synthesis of American prehistory. American archaeologists can dispense

with Part I of this book, even in using Part II. But Part II will have great utility for years to come for both professional anthropologists and students. There is nothing like it in print; for the first time it provides us with a comprehensive picture of American prehistory that is actually based on the evidence, and which includes both American continents in its frame.

Large scale syntheses such as this, whether they deal with the prehistory of a state, a continent, or as in this instance a hemisphere usually share a common fault. So many detailed data must be handled that carelessness with regard to detail is usually regarded as a necessary evil. Such is not the case with the Willey and Phillips volume. For those regions with which the reviewer is familiar the documentation is adequate and the basic data are handled with remarkable care and accuracy. The conclusions arrived at, on a regional basis, are usually tenable and supported by the facts, although not necessarily representing the most generally accepted ones for the region.

On the other hand the book is not without inconsistencies and contradictions. Admittedly, the criteria for the various stages are fluid, fluctuating between ecological and functional factors on the one hand and the avowed descriptive characteristics on the other. Throughout the treatment is more interpretative and inferential than the authors admit. Application of hemisphere-wide stage diagnostics is not accomplished without stress. The cultures of the prehistoric Northwest Coast, the Southwestern Desert Cultures, the Archaic and Early Woodland of the eastern United States, early Huaca Prieta and the preceramic cultures of the Chilean littoral cannot be accommodated under the same classificatory rubric without strain. Likewise, the authors perhaps attempt to be overly encyclopedic in their treatment of the American data. Northwest Coast culture is probably too much of an intrusive from Asia to be properly included in any Americanist scheme. Similarly, the Cape Denbigh Culture is probably an Old World mesolithic culture that never really took root in the New World; stretching of Americanist classifications to include it is probably unwise.

Regardless of such strictures and qualifications, this is the indispensable book of the decade or the half century for American archaeologists. It should do for the hemisphere what the 1941 Ford and Willey paper on the archaeology of the Eastern United States (*American Anthropologist*, Vol. 43) did for North America.

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ANCIENT MAN IN NORTH AMERICA (fourth edition, fully revised), by H. Marie Wormington. Pp. xviii + 322, figs. 72. Denvc. Museum of Natural History, Popular Series, No. 4, Denver, 1957. \$3.65 (paper), \$5.25 (cloth).

With, as has been suggested, the primitive Santa Rosa islanders settling down to barbecue their dwarf mammoth some 30,000 years ago whilst their contemporaries at Lewisville, Texas, were preparing to do honor to their roasted camel, the more conservative among the students of early man in the New World will have received another jolt, by no means the first on the long road that has been leading us daily further away from the great, but not infallible, Hrdlička. It is not easy to express an opinion on those controversial dates which, incidentally, the author of the work under review relays with the greatest objectivity and caution, but there is no denying that there is now a tendency, supported by the evidence from South America, to place the date of man's first entry into the New World much earlier than would have been considered possible only a relatively small number of years ago; and it is an equally undeniable fact that discoveries connected with early man in the Americas have been succeeding each other in increasing numbers and with an astonishing rapidity. One is, in consequence, only too happy to welcome Dr. Wormington's latest contribution to the subject.

The first edition of this work was a slim little book of some 80 pages and appeared in 1937: this fourth edition, curiously enough almost exactly four times as large; conforms to the same general pattern, but considerably more attention is paid at the outset to the geological and climatic issues involved. An equally satisfying chapter is then devoted to methods of dating. The fourth chapter is entitled "Stone Industries," and embraces two thirds of the book; the author, after sifting all the evidence available, in itself a remarkable achievement, describes with a truly enviable talent for lucid condensation and an expert's insistence on essentials, an impressive number of sites and a wide variety of industrial types. Dr. Wormington accepts the idea of three traditions, the Paleo-eastern, with emphasis on big game hunting, the Paleo-western, stressing food gathering, and the younger Paleo-northern, more closely related to that of the Eskimo than to those of the American Indians. There follows an equally reliable chapter on early human remains and another, "The Peopling of North America," with conclusions as reasonable as they are cautious: the author favors the idea that the early peopling of America must be credited to hunters moving after their prey across a former land-bridge in what is now the Bering Strait region; they were of composite racial origin but are to be placed in the general Mongoloid division of mankind. Finally we find several pages devoted to the definition of certain projectile point and knife types, accompanied by some excellent illustrations. These sections, as also the glossary and the map, are certain to prove of the greatest value to the majority of readers: they are, indeed, one of the most useful parts of an extremely useful book. The work ends with a very full bibliography and a copious index.

From the first page to the last the book is accurate, sound and clear: rarely, indeed, does one find a work

to which one might so unhesitatingly apply those unpleasantly hackneyed but doubtless necessary adjectives, scholarly and authoritative; for such, indeed, it is. As one would suppose, the emphasis is on typology, not only, as most working archaeologists know, because the author stands unsurpassed in this field (witness her cruel but necessary dismemberment of the once so closely united "Yuma" family) but also because, needless to say, it is to typology that we must generally turn, and which we can never afford to overlook, when searching for the key to most of the different problems regarding the early peopling of the Americas. It cannot be denied that such heterogeneous assemblages as those at Iyatayet, in Alaska, or at Santa Isabel Iztapan, near Mexico City, have proved that some aboriginal groups occasionally, and with a complete lack of consideration, disregarded their typological obligations and have consequently led the unfortunate archaeologist into hopeless morasses. But these cases are not too frequent and under Dr. Wormington's unfailing guidance we may be quite sure that the perils will be reduced to a minimum.

To sum up, Dr. Wormington has once again produced an admirable piece of work, and one which is remarkably thorough from the strictly archaeological point of view. There are, however, other approaches—ethnological, somatic, linguistic—which receive far less attention. Although they are plagued with speculation they sometimes lend themselves, we think, to legitimate inferences of great interest and importance, albeit of a tentative character, and it would have been desirable to find fuller information as to the different theories. Be that as it may, it cannot be sufficiently repeated that Dr. Wormington has once again rendered a truly outstanding service to all those who are interested in the early peopling of America.

PABLO MARTÍNEZ DEL RÍO

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THE NEOLITHIC AGE IN EASTERN SIBERIA, by *Henry N. Michael*. Pp. 108, figs. 100, maps. 6. Transactions of the American Philosophical Society, New Series, volume 48, Part 2, Philadelphia, 1958. \$2.50.

Published information in English on the Neolithic of eastern Siberia is understandably scarce. Yet eastern Siberia, apart from its intrinsic importance as a local theater of world history, is of particular interest to English readers. For obvious geographic reasons, Americanists are led to seek there the ultimate origins of many elements of native New World culture.

The descriptive data provided in the present report are by far the most complete to appear to date in English, particularly for the Lake Baikal region. The bulk of the information is taken from the earlier one

of two volumes on the Baikal region by the noted Soviet archaeologist Okladnikov, and from the first and third of the same author's reports on the archaeology of the Lena valley. Okladnikov's second Lena report (1947), however, was not available to Michael, and its omission from his sources creates a sizeable gap in his treatment of the archaeology of the lower Lena valley.

The organization of the Baikal and Middle Lena data follows Okladnikov closely, in fact at times so literally as to reflect faults of presentation that are not Michael's, but Okladnikov's. Happily, Okladnikov's extended and not always relevant speculations concerning general ethnological problems are largely omitted. An extensive series of illustrations and maps accompanies the text.

It is important that English-speaking readers be warned of a number of inaccuracies in Michael's summary. They range from mistranslations to misinterpretations of the archaeological evidence, perhaps due to unawareness of some of the broader problems concerned. The reduction of Russian proper names to the nominative from declined or adjectival forms (a problem a Russian might face in extracting G. B. Shaw's name from the adjective "Shavian") is admittedly difficult at times, and such near-misses as "Kullata" for "Kullaty" are readily excused. However, the incorrect rendering of such common international terms as "Magdalenian," "Campignian" and "Jurassic" (given, respectively, as "Magdelinian," "Campigne" and "Jura") is unexpected. It is also puzzling to see such Russian site names as "Kylarsa" and "Kapchigai" appearing in mangled forms as "Kilarets" and "Kapchagan."

More serious is the translation of the Russian term for "burial ground" (*mogil'nik*) as "burial mound." This is sure to catch the eye of North American specialists, who would be only too happy to find tumulus graves in eastern Siberia, establishing thereby an important further parallel between eastern North America and eastern Siberia. However, burial mounds do not occur in the areas and periods covered by Michael.

The weakest aspect of Michael's summary is, without doubt, pottery description. While Okladnikov's terms and descriptions are not always unambiguous, his description of Kullaty pottery, for example, is rather detailed and painstaking. The term "net-impression" does not cover adequately all four types of surface treatment distinguished by Okladnikov in his report. Thus, the sherds illustrated in Michael's fig. 77 (1, 3) can by no means be called "net-impressed," as they are by Michael, but not by Okladnikov. They are more likely of a kind which, in the eastern United States, would be termed "impressions of a plain-plaited fabric." The surface treatment noted by Okladnikov on Khatanga pottery is correctly described by Michael as "cord-impressions such as are made by employing a cord-wrapped paddle." However, Okladnikov's cross-reference to Kullaty is not followed up, and a similar treatment occurring at that site is not mentioned or described at all. Still another type of pottery finish (per-

haps best termed "linear stamping" in English), a distinctive feature of a number of sites in the Yakutsk area and also part of the Kullaty complex, is not mentioned by Michael in either connection. The pottery found north of Sangar (p. 89; the location is near Chachime Creek) is again cursorily identified by Michael as "net-impressed"; in reality, as Okladnikov goes to some pains to explain, it exhibits a distinctive treatment quite unlike net-impression. In North America, it would probably be ascribed to the use of a cord-wrapped paddle. Check-stamping is rendered by Michael as "pseudo-textile impressions," a literal translation from the Russian which is not likely to be recognized for what it is. In another place (p. 98), check-stamping is incorrectly identified as "net-impression."

If these criticisms seem extensive, it is because the language barrier which cuts most readers off from Michael's sources will prevent them from making the required corrections in using this report. This same language barrier, however, makes obvious the overall importance and value of Michael's monograph.

PAUL TOLSTOV

NEW YORK, N.Y.

VALDIVIA, un sitio arqueológico formativo en la costa de la Provincia del Guayas, Ecuador, by *Emilio Estrada*. Pp. 11, figs. 4. Publication No. 1, Museo Arqueológico Víctor Emilio Estrada, Guayaquil, Ecuador, 1956.

ÚLTIMAS CIVILIZACIONES PRE-HISTÓRICAS DE LA CUENCA DEL RÍO GUAYAS, by *Emilio Estrada*. Pp. 87, figs. 72, tables 6, maps 2. Same series, No. 2, 1957.

LOS HUANCAYILCAS, últimas civilizaciones prehispánicas de la costa del Guayas, by *Emilio Estrada*. Pp. 82, figs. 50, tables and maps 9. Same series, No. 3, 1957.

PREHISTORIA DE MANABÍ, by *Emilio Estrada*. Pp. 176, figs. 132, tables 14, maps and plans 8. Same series, No. 4, 1957.

Until recently, Ecuadorian archaeology lagged behind that of Mexico and Peru. A fair amount was known about some areas, but few sites had been dug stratigraphically and our knowledge of the cultural sequences was extremely scrappy. With the recognition of similarities between the Formative stages in Mexico and in Peru, particularly between the pottery of Tlatilco and that of the Chavín period, the time was ripe for developments in the intermediate area. In this context, the appearance of Emilio Estrada on the archaeological scene was most timely. For a number of years he worked as an enthusiastic amateur, following in the footsteps of his illustrious countrymen the Archbishop Federico Gonzalez Suarez and Don Jacinto Jijón y Caamaño, and then, wishing to learn more about modern archaeological techniques, he invited Clifford

Evans and Betty J. Meggers of the Smithsonian Institution to visit Ecuador in 1954 and to cooperate with him in locating and excavating stratified sites. The results of their work in the Guayas Basin, where the succession of cultures was totally unknown, were startling, since they included the establishment of two Formative stages, called Chorrera and Tejar, with specific resemblances to those of Middle America and Peru (see "Formative Period Cultures in the Guayas Basin, Coastal Ecuador," by Clifford Evans and B. J. Meggers, *Am. Antiq.* 22:3, 1957). Except for a short period in late 1956 and early 1957 when Evans and Meggers were again in Ecuador, Estrada has continued on his own, and conclusions he has reached have been published privately by him in a series of publications of his museum, the Museo Arqueológico Víctor Emilio Estrada, named in honor of his father. He has accomplished what can only be described as a staggering amount of work in so short a time, with the result that we now have a chronological framework covering most of the coast, with some pointers in the direction of the mountains and elsewhere.

The first publication deals chiefly with the Early Formative horizon which he discovered at Valdivia, a village on the coast near the northern limit of the Province of Guayas. In the second, he passes inland to deal with the latest prehistoric cultures of the Guayas Basin, and in the third he deals with those of the same age in the coastal areas of Guayas and the southern part of the adjacent province of Manabí. The fourth report extends the work to the north of this province and also brings in the early cultures to the south. A matter of general interest in the third report is an account of balsa transport, which is well known to have been used in Pre-Columbian times. He includes a description of the successful experiments which he and Heyerdahl carried out in the use of center-boards for maneuvering a balsa which he had built for the purpose. All four publications are copiously illustrated with photographs, drawings, tables of rim sherd counts, and seriation diagrams.

A good deal of Estrada's work has been done in the area adjacent to the Santa Elena Peninsula, where I worked and on which I published a detailed report (G. H. S. Bushnell, *The Archaeology of the Santa Elena Peninsula in South-West Ecuador*, Cambridge University Press, 1951). In giving an outline of what he has accomplished, I shall have to refer to it. At Valdivia he discovered an horizon corresponding to the Early Formative in Peru, but in addition to specifically Peruvian types of pottery it includes numerous handmade female figurines, which point to Middle America, although the exact type has not been matched there. This is followed on the coast by a Middle-Late Formative period, corresponding to the Chorrera period and including various local and perhaps chronological varieties, one of which has produced a pottery type, Ayangue Incised, which I described under the provisional name of Pre-Guangala. Estrada has recently produced evidence (personal communication) that

my Engoroy culture, which I then regarded as later in the succession, also belongs to the Middle-Late period, so the association which I found of Engoroy burials with Ayangue Incised sherds may not have been fortuitous. The Guangala culture, which I originally named and described, has now been proved stratigraphically to follow the Formative period, and it is tentatively correlated in time and degree of cultural development with the Classic period of Peru (Mochica, Recuay, Nazca, Tiahuanaco, etc.). A transition, based on sherd counts, between it and the succeeding post-Classic Manteño period, has also been demonstrated, although the two are so different that I find this surprising, and would like to see more digging to support this interpretation.

These results apply mainly to the coastal areas of Guayas and southern Manabí, but Estrada has also investigated cultures corresponding to the latter part of the succession in the north of Manabí and in the Guayas Basin. The Manabí group are closely related to those of the northernmost coastal province of Esmeraldas; this has not yet been fully studied, but Estrada believes that the Formative horizon is absent from both it and northern Manabí, which gives a strong indication that the Formative cultures came from the north by sea. The post-Classic cultures of the Guayas Basin are related to the Manteño of the coast but have special features, particularly the burial mounds which contain numerous secondary burials in urns as well as primary ones, besides some ceremonial pottery with astonishingly extravagant appliqué ornament.

In a wider context, Estrada has shown strong connections between Ecuador and Peru in Formative times, although I think that these died away sooner than he suggests. For instance, I cannot yet see very specific resemblances to the Peruvian Salinar culture in Ecuador, even though Estrada, Evans, and Meggers propose this in the Tejar period. Estrada has also pointed to unsuspectedly close relationships between the coast and the southern highlands of Ecuador on the Formative horizon.

The publications are really progress reports, while Estrada continues his activities, for which he merits the highest praise. There is still much to do, and I look forward to the time when he coordinates all his information and makes it available to a wider public in the form of a monograph, with all the supporting evidence presented in great detail and up-to-date format. If this has an English version it will have a better chance to bring him the recognition which is due him. I must add that his photographs deserve better treatment than they have hitherto received at the hands of the printer.

G. H. S. BUSHNELL

UNIVERSITY MUSEUM OF ARCHAEOLOGY
AND ETHNOLOGY, CAMBRIDGE

THE ANCIENT CIVILIZATIONS OF PERU, by J. Alden Mason. Pp. xx + 330, figs. 6, pls. 64, maps 2,

tables 1. Penguin Books, Harmondsworth, Middlesex, 1957. \$1.25.

The term "Peru" is not used here in the sense generally accepted among archaeologists, as a designation covering the entire high-culture area of western South America, but is geographically limited to the territory of the modern state of Peru. Thus the book deals primarily with the history of the present republic in pre-Hispanic times. The Peruvian border is crossed on a single occasion only, in connection with the Tiahuanaco culture. The fact that this culture originated in Bolivia, while strongly affecting developments in Peru, left the author no other choice. Indeed, Peruvian developments cannot be viewed except against the background of the evolution marking the Tiahuanaco culture in its own focal area south of Lake Titicaca. The limitation observed results in but scanty data on developments in the marginal regions of the ancient Peruvian culture area, as for instance the diffusion of the Tiahuanaco culture to northern Chile and northwestern Argentina as well as eastwards toward the Bolivian lowland, or the traces left behind by the Inca culture in these same areas as well as in Ecuador. Nor are data furnished on the locally limited cultures in these marginal areas, such as those of the Atacama, Chicha, and so forth. However, this limitation has presented the author with greater opportunities for a thoroughgoing study of Peru itself. The result is a lucidly detailed review of Peruvian pre-history in a format convenient for the traveller or student, which at the same time provides an introduction to Peruvian archaeology.

Following a somewhat concentrated account of the geographical environment and a summary review of the racial characteristics and languages of the Andean Indians, the author presents a cross section of cultural evolution from prehistoric times to the Conquest. The accent is on the final phase of Peruvian cultural evolution, the Inca culture, with accounts of the Inca dominion's history, economic life, social organization and religion. The material achievements of the Inca culture are touched upon only in the case of architecture, roads, bridges, and irrigation. Inca creative ability and technical skill in the matter of textiles, metallurgy and ceramics, are apparent from the concluding section, entitled "Arts and Crafts," where developments in these fields are treated from the earliest times. This latter section is of special value, providing as it does, like the initial chapters with regard to the cultural development as a whole, a handy summary of the results accrued since publication of Vol. II, "Andean Civilizations," of the *Handbook of South American Indians*; Bennett and Bird's *Andean Culture History*; and *A Re-appraisal of Peruvian Archaeology*, edited by Bennett.

In regard to certain details it might prove possible to take issue with the author. Thus, road construction is likely to have existed already in pre-Inca times in conjunction with the appearance of large urban

settlements in the coastal valleys. Also, a predominance in pre-Hispanic days of the circular hut shape, especially in the country, and its subsequent gradual replacement by the rectangular house in connection with the Conquest may have to be reckoned with. This is indicated particularly by conditions in the Titicaca Basin, but probably will be found elsewhere as well. The same applies to pottery-making as a male occupation. Tschopik, basing his conclusion on the fact that the designation for a potter in a 17th century linguistic work shows male gender, has claimed that pottery-making in ancient Peru was a male prerogative, yet this contention is sharply at odds with conditions obtaining in all the rest of South America and what is to be observed, to this very day, in the marginal regions of the Peruvian culture area. Against such a contention stands also the manner of pottery-making among the Quichua-Inca descendants—in the Cochabamba area.

In the schematic arrangement of Peruvian culture periods the Collao Chullpa epoch should not have been presented as an exclusively pre-Inca era but should have been designated as a development parallel with the Inca, which continued even into Colonial times. Inasmuch as this also applies to the coastal cultures, an arrangement like the author's might be defensible only with a view to marking political developments. As a marginal note I would point to the fallacy of claiming that platinum was not known in Europe prior to the 1730's. A metal from Darien which could not have been anything but platinum is mentioned by the Italian J. C. Scaliger (1558) while M. P. E. Berthelot has shown that this same metal came into use in Egypt as early as the second half of the 7th century B.C.

A desire for profusion in the pictured material may have been the reason why so many different ceramic types have been crowded into various illustrations, but this makes it sometimes difficult to form an adequate idea of the smaller specimens. One would also have wished that some specimens of outstanding artistic merit had been separately reproduced, in order to do additional justice to the superb creative ability and artistic sense of the ancient Peruvians.

This book appears in a series already responsible for reprinting Vaillant's classic *Aztecs of Mexico*. It constitutes a similarly outstanding work about another American area where Indian cultural evolution attained its culmination.

STIG RYDÉN

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THE ARCHAEOLOGY OF CENTRAL AND SOUTHERN HONDURAS, by Doris Stone. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. XLIX, No. 3. Pp. xii + 135, figs. 38, collotypes 45, colored frontispiece. Cambridge, Mass., 1957. \$5.85.

This volume, with its companion *The Archaeology of the North Coast of Honduras* published in 1941, presents the archaeology of Honduras in such a way that the scholar can easily find out what is known about the area. The current report is arranged according to geographical divisions that equate with cultural differences. In each chapter, a good geographical description introduces the problem, followed by the history of the region from Spanish chroniclers and early historians and a summary of the ethnology. Detailed descriptions of archaeological materials, especially pottery types, provide the main body of each section; then, a general discussion and summary reconstructs the culture of the area and compares it with other aboriginal sequences in Middle America. Other than the Playa de los Muertos horizon of the Ulua Drainage, the materials are all later than the Formative Period. Throughout the entire report the comparative materials are included with careful, accurate citations; the extensive ethnohistorical data are extremely useful. The colotype plates are excellent, so that the texture of the stone and pottery is accurately reproduced; only a few sherds are too small for easy comparison.

One of Stone's conclusions is that the majority of the Honduran aboriginal cultures are Central American in origin and development. Maya influences are strong only at the classic Maya sites of Copan and a few others, and on polychrome pottery in the sites of the Ulua drainage. Mexican influences crop up in various places and there is historical evidence of the Chroctean and Aztec migrations. Although ethnologically some traits link with South America, archaeologically there is almost no evidence to indicate that South American aboriginal cultures had an important influence on the aboriginal cultural development of Honduras.

The absence of extensive excavation diagrams, sequence charts, and the handling of the frequency of pottery in generalized terms "abundant," "fairly common," "very rare," without objective counts of pottery type occurrences or vessel shape trends, etc., in no way detracts from the book. With this and the earlier volume, *The Archaeology of the North Coast of Honduras*, Stone has done a good job in laying the groundwork and preparing the overall summary of aboriginal cultural development of Honduras; now others may follow with their field research oriented toward specific problems.

CLIFFORD EVANS

SMITHSONIAN INSTITUTION

THE ADENA PEOPLE—No. 2, by William S. Webb and Raymond S. Baby, with chapters by Charles E. Snow and Robert M. Goslin. Pp. xi + 123, pls. 49. Ohio State Historical Society, 1957. \$3.50.

This is a study of the Adena people, a prehistoric Indian group found in southern Ohio and adjacent areas. The report contains a list of sites and a discussion of traits which have been discovered or modified by recent research, a review of the evidence for Adena occupation of rock shelters in eastern Kentucky, and a tabulation of Carbon-14 dates for this culture. Included in the report are three chapters of special interest. The first presents archaeological evidence for Adena animal masks and reviews reports of earlier finds which may be similarly interpreted. The second is the chapter on medicine bags which includes a review of ethnographic data from a wide area as well as possible archaeological indications of these objects. The third chapter discusses engraved Adena tablets in detail. In addition, there is a report of the food of the Adena people by Robert M. Goslin which includes both animal and vegetable foods utilized by these people; and a discussion of Adena portraiture by Charles E. Snow reporting recent information on Adena crania. Snow suggests that the brachycephalic Adena people may be Mexican in origin.

As the authors have indicated, this book is a continuation of earlier research published in *The Adena People* (Univ. Ky. Repts. in Anthropol. and Archaeol., Vol. VI, 1945). The format of the first report has been followed here and the culture traits discussed here have been given the same numbers. Thus it is possible for the student to integrate the information contained in the two reports with little difficulty.

An important aspect of the Adena culture in American archaeology is its relationship to Hopewell, and there is little discussion of this problem in the report. The Carbon-14 dates on Adena sites, which the authors appear to accept, cover a time span from 800 B.C. to A.D. 700. These dates suggest that the widespread idea that Adena preceded Hopewell is correct, and in addition indicate that the two cultures existed side by side for some time. There is no discussion of the re-run on Sample 126 from the Drake Mound in Kentucky which was first dated at 1168 ± 150 and more recently at 2200 ± 250 . According to the first run, this was the latest of the three Adena sites which date within the Christian era, and it seems that the difference between the two runs might have implications for the other late dates. Perhaps a later report will contain a detailed discussion of the Adena-Hopewell relationships with regard to Carbon-14 dating and a comparison of early, middle and late Adena and Hopewell.

On the whole the report is well written and very well illustrated. Archaeologists owning the first volume will certainly wish to acquire the second.

ELAINE A. BLUHM

UNIVERSITY OF ILLINOIS



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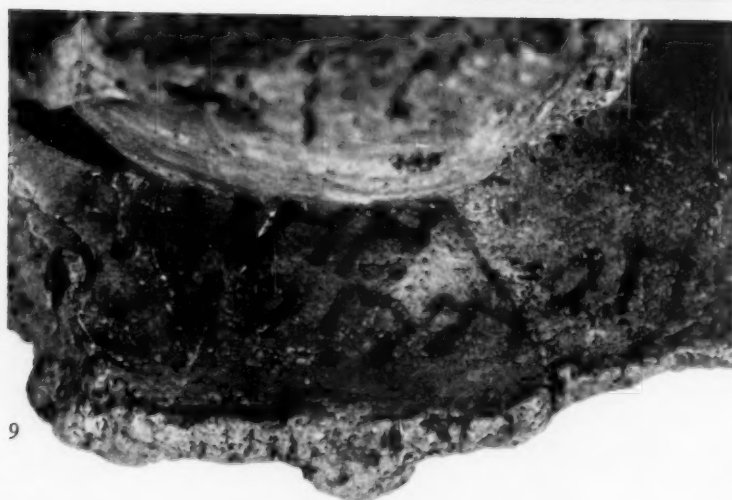


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Figs. 1-5. Plaster casts, said to be from Memphis, in the Hildesheim Museum



Figs. 6-9. Plaster casts, said to be from Memphis, in the Hildesheim Museum



Figs. 10-11. Diomedes and Odysseus. Plaster casts from Begram, Kaboul Museum



Fig. 12. Diomedes and Odysseus. Sard, signed by Felix. Collection of Captain Spencer Churchill
From an impression, enlarged



Fig. 13. Sleeping man and winged figure
Plaster cast from Begram, Kaboul Museum



Fig. 14. Sleeping man and winged figure
Marble relief formerly in Gréau and Fröhner
Collections. From a plaster cast



Figs. 15-16. Plaster casts from Begram. Kaboul Museum



Fig. 17. Ajax and Cassandra.
Plaster casts from Egypt. Louvre



Fig. 18. Ajax and Cassandra. Marble
relief in Borghese Gallery, Rome



Fig. 20. Herakles and the Nemean lion.
Bronze mirror from Anaktoron. British Museum



Fig. 21. Maenad. Plaster cast in University of London. From Egypt(?)



Fig. 19. Herakles and the Nemean lion.
Plaster cast from Egypt. Louvre



Fig. 22. Maenad. Plaster cast in Museum für Antike Kleinkunst, Munich



Fig. 23. Aphrodite and Eros.
Plaster cast from Egypt. Louvre



Fig. 24. Dionysos and satyr. Plaster
cast from Egypt(?). University of London



Fig. 27. Omphale and Herakles(?)
Modern plaster impression from
ancient mold found in the
Chersonnese, South Russia



Figs. 25-26. Plaster casts from Egypt(?)
Metropolitan Museum, New York



Fig. 28. Satyr. Modern plaster
impression from ancient mold
found in the Chersonnese



Fig. 32. Deity pouring libation. Plaster cast from Begram, Kaboul



Fig. 33. Terracotta lamp from
Athenian Agora. Deity pouring
libation. Agora Museum



Fig. 29. Sacrificial scene. Plaster cast from Egypt. Museum für Antike Kleinkunst, Munich.



Fig. 31.

Figs. 30-31. Sacrificial scenes on gladiatorial helmet. National Museum, Naples



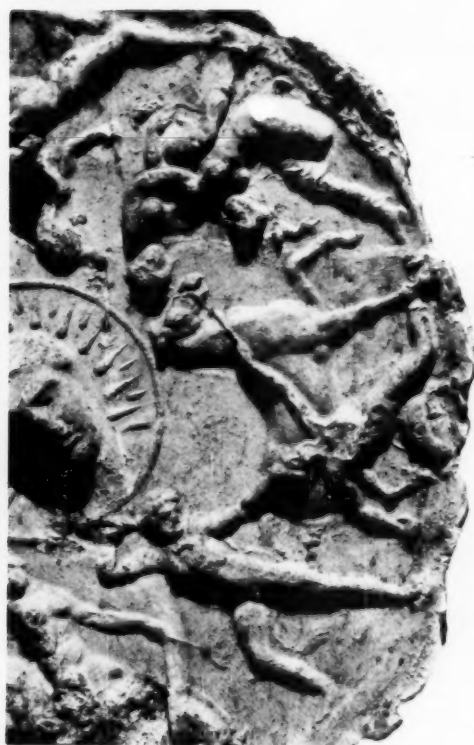
Fig. 34. Amazonomachia. Plaster cast from Via Appia, Rome. In the Vatican



Fig. 36.



Fig. 37.



Figs. 35-37. Details of the Amazonomachia shown in fig. 34



Fig. 38. Echelos, Basile and Hermes.
Marble relief in National Museum, Athens



Fig. 1. View of exterior before 1943



Fig. 2. Partial view of apse uncovered in 1950

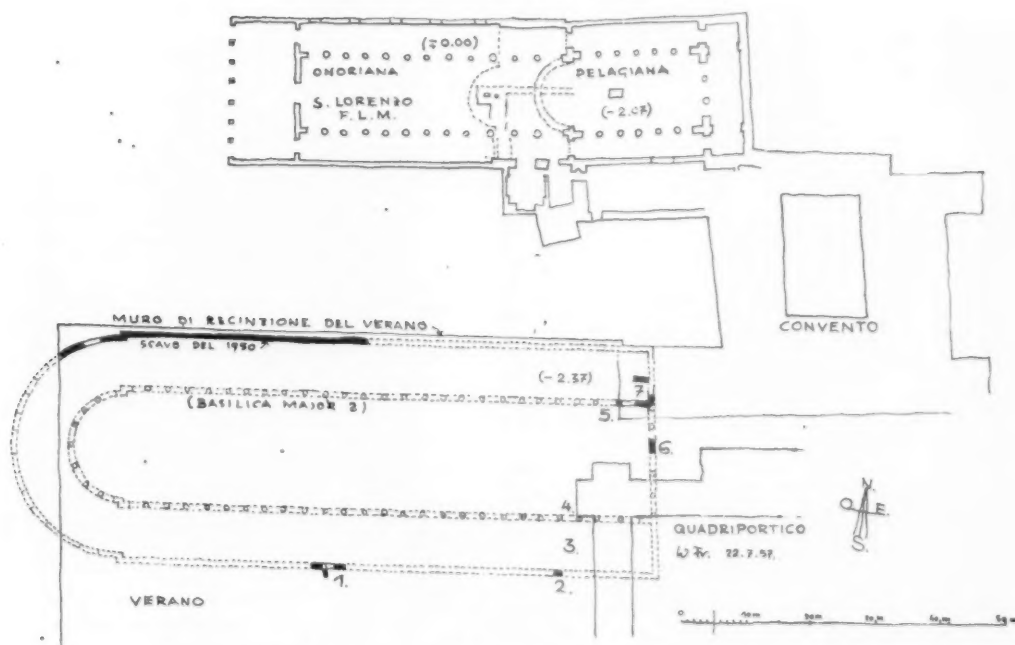


Fig. 3. Plan of the Honorian, Pelagian and Major basilicas of San Lorenzo



Fig. 4. Travertine block, red granite plinth and base found near west wall of convent



Fig. 5. Fluted drum of cipollino column

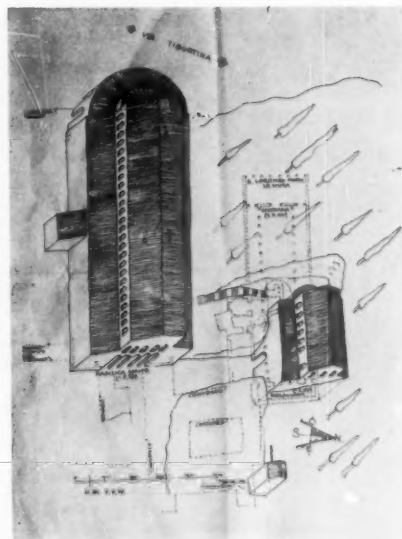


Fig. 6. Reconstruction of exterior of Basilica Maior and Pelagian basilica



Fig. 1. Enkomi tomb 7/4784



Fig. 2. The "Zeus crater" (photograph Cyprus Museum)



Figs. 3 and 4. The "Homage scene" crater (Musée du Louvre, Département des Antiquités Orientales)



Figs. 5 and 6. BM C342 (courtesy of the Trustees of the British Museum)

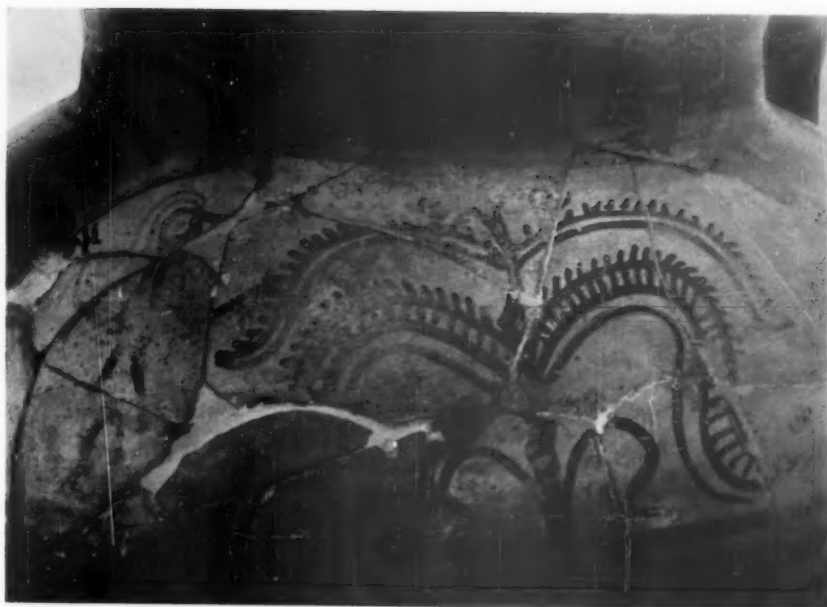


Fig. 7



Fig. 8

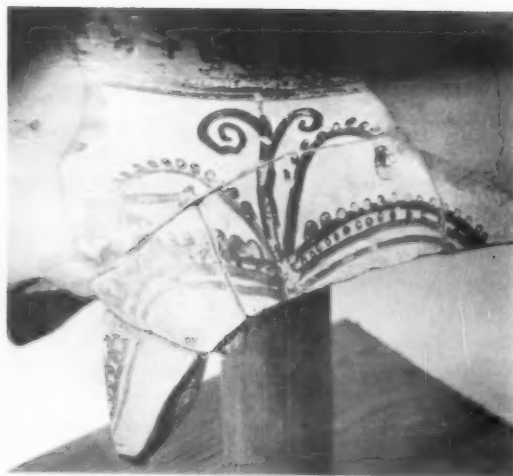


Fig. 9

Figs. 7, 8 and 9. Enkomi tomb 3/278 (photograph Medelhavsmuseet, Stockholm)



Fig. 10. The Ras Shamra crater (from Cl. F. A. Schaeffer, *Ugaritica* II, fig. 90:4)

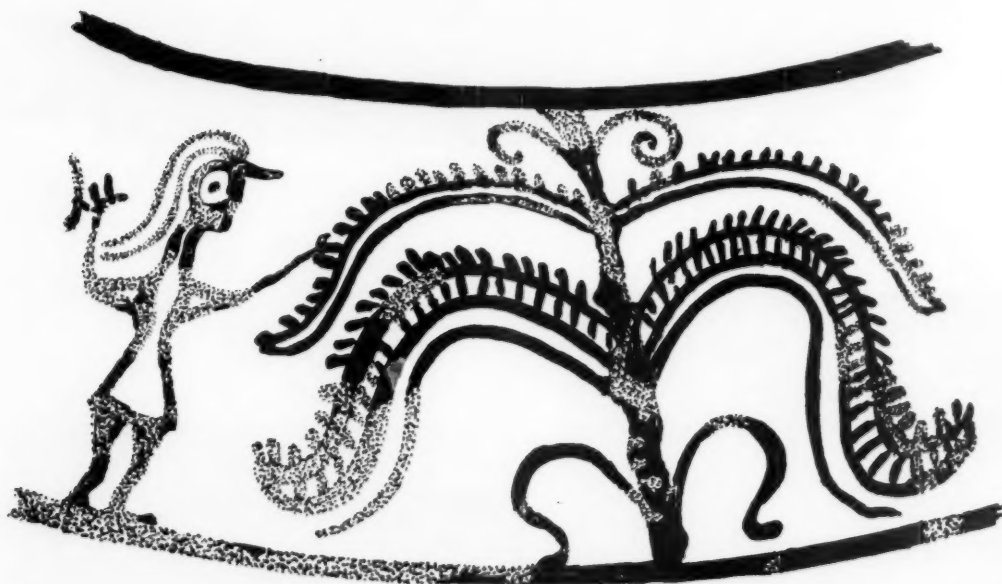


Fig. 11. Enkomi tomb 3/278, side A

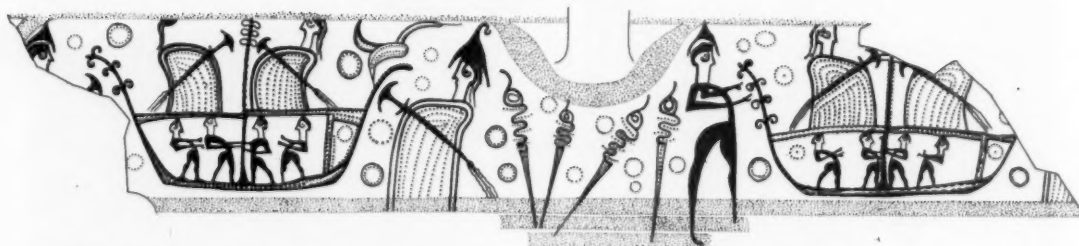


Fig. 12. Enkomi tomb 3/262 (from Sjöqvist, *Problems of the Late Cypriote Bronze Age*, fig. 20:3)



Figs. 1-2. New York,
Metropolitan Museum 49.94.2

Figs. 3-4. Athens, National Museum 1719



Figs. 5-6. Oxford 1936.612



Fig. 7



Fig. 8

Figs. 7-10. Athens, National Museum 1406



Fig. 9



Fig. 10



Fig. 11. Oxford 1952.237



Fig. 12. Mainz, ex Preyss



Figs. 13-14. Mainz University



Fig. 15. Athens, National Museum 1373



Fig. 16. Athens, National Museum 1420



Fig. 17. New York, Metropolitan Museum 49.94.2



Fig. 20. Kassel T 426, phot.
Staatliche Kunstsammlungen Kassel



Fig. 18. Bologna, Museo Civico 510



Fig. 19. Yale, Stoddard Collection 130,
courtesy Yale University Art Gallery



Fig. 21. Market



Figs. 22-23. Kassel T 426, phot. Staatliche Kunstsammlungen Kassel



Fig. 26. Athens, National Museum 1367



Figs. 24-25. Yale, Stoddard Collection 130, courtesy Yale University Art Gallery



Fig. 27



Fig. 28



Fig. 30



Fig. 31



Fig. 29

Figs. 27-31. Athens, National Museum 12597



Fig. 1. Egyptian wooden bows, showing single and double curve (courtesy, Metropolitan Museum of Art)



Fig. 2. Bow factory, from Tomb of Dynasty XVIII (W. Wreszinski, *Atlas zur altägyptische Kulturgeschichte*, 1.152)

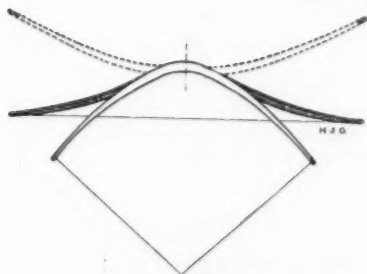


Fig. 3. Typical angular bow, showing shape when unstrung, braced and drawn (F. E. Brown, *SemKond* 9 [1937] 4, fig. 1.1)

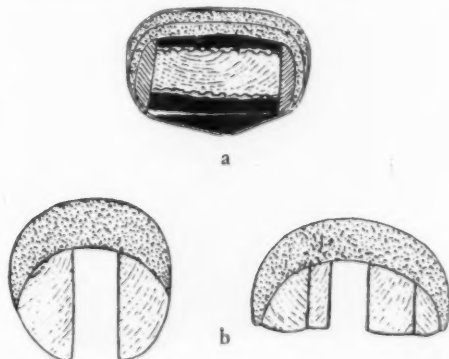


Fig. 8. Sections through other Egyptian bows (actual size). a: arm of Oxford bow; b: grip and arm of Berlin bow (von Luschan, *Mitt.Orient. Samml.Kgl.Mus.Berl.* 14 [1911] 352, Abb.258c,d)

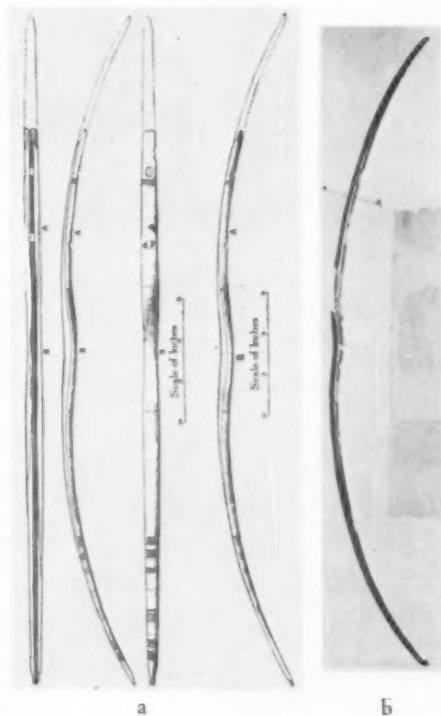


Fig. 7. Other Egyptian bows. a: Berlin bow (C. J. Longman, *JRAI* 24 [1894/95] pl. x); b: Oxford bow (H. Balfour, *JRAI* 26 [1896/97] pl. ix)

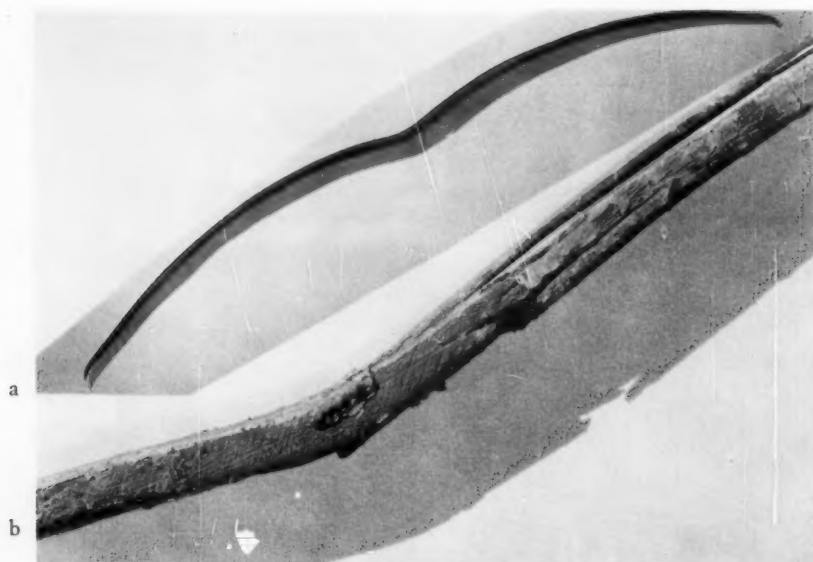


Fig. 4. The Brooklyn bow (courtesy, Brooklyn Museum)

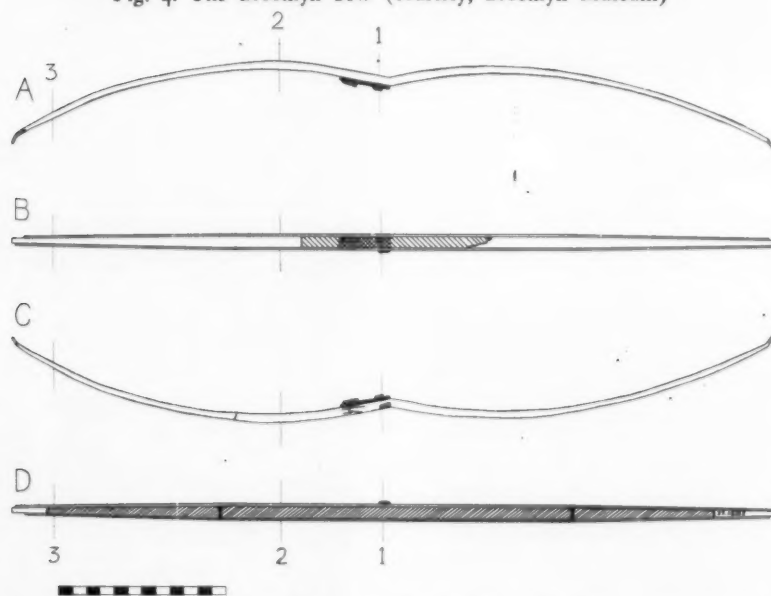


Fig. 5. Brooklyn bow, schematized. A: profile of one side (arbitrarily designated "left"); B: back; C: "right" profile; D: belly. Hatching shows direction of file scoriations on horn. Sections at 1, 2, 3 in fig. 6

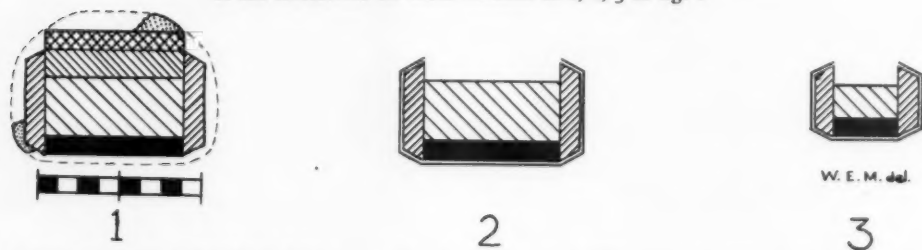


Fig. 6. Sections through Brooklyn bow (actual size). 1: grip; 2: middle arm; 3: upper arm (black = horn; diagonal hatching = wood; cross-hatching = wood [or perhaps horn]; stippling = sinew and tendon)



Fig. 1. The Eleusis Relief



2



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6



7



8



9

The Parthenon Frieze: figs. 2, 3, 4, 5, 6, 7, 9 after Fougère, *l'Acropole d'Athènes*; fig. 8 after Smith, *The Sculpture of the Parthenon*



Fig. 1. Sala Consilina; equipment of cremation burial of Ausonian culture



Fig. 2. Sala Consilina: equipment of Oenotrio-Ausonian cremation burial



Fig. 3. Padula: hall in Museo Archeologico della Lucania Occidentale, as installed in the Certosa

Figs. 1-4, photographs Museo Provinciale, Salerno, courtesy V. Panebianco



Fig. 4. Nuceria Alfaterna:
marble statue of Athena



Fig. 5. Sanctuary of the Silarus: metope from sanctuary
(courtesy Dr. P. Zancani Montuoro)



Figs. 9-10: Paestum: squat lekythos showing Purification of Orestes



Fig. 6. Paestum: chamber tomb before opening



Fig. 7. Paestum: chamber tomb after opening of entrance



Fig. 8. Paestum: chamber tomb south wall, painting representing contest between two warriors

Figs. 6-10, photographs courtesy P. C. Sestieri



Fig. 11. Santa Severa and vicinity (Tofa mountains in distance)

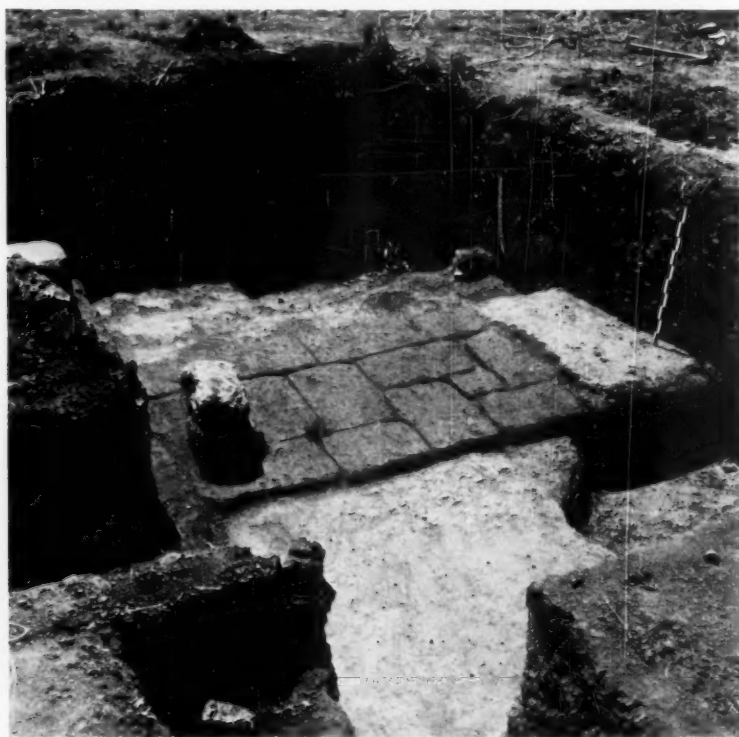


Fig. 12. Santa Severa: stone foundations at shore

Figs. 11-14, photographs Sopr. Etruria Meridionale, courtesy M. Pallottino



Fig. 13. Santa Severa:
terracotta bearded head



Fig. 14. Santa Severa:
terracotta head of Athena



Fig. 15. Populonia: tomb in form of small temple



Fig. 17. Polverosa: terracotta bottle
with Dionysiac and hunting scenes



Fig. 16. Polverosa: gold necklace

Figs. 15-17, courtesy G. Caputo



Fig. 18. Rusellae: revetment slab



Figs. 19-20. Rusellae: antefix: female head

Figs. 18-20, photographs German Arch. Inst., Rome, courtesy R. Naumann

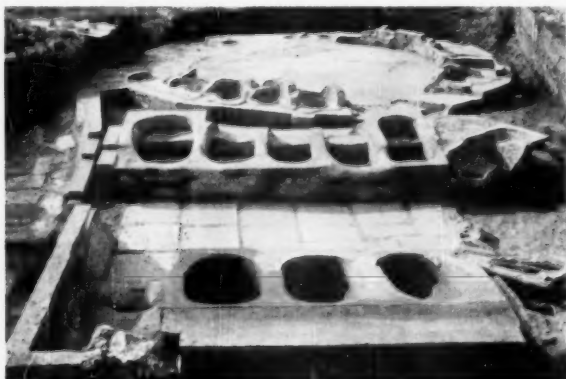


Fig. 23. Gela: Greek bathing establishment,
courtesy D. Adamesteanu and P. Orlandini



Fig. 21. Syracuse, Epipolai: wall of Dionysios I



Fig. 22. Polychrome mosaic from Halaesa

Figs. 21-22, courtesy G. V. Gentili



Figs. 27-28: The *Nuraghe Su Nuraxi* at Barumini, courtesy G. Lilliu. Courtyard, left sector, seen from above: entrance to rooms of W and N smaller towers (bottom); entrance to upper-story room where chieftain slept (above). Fig. 28: closer view of fig. 27



Fig. 24



Fig. 25



Fig. 26



Fig. 29

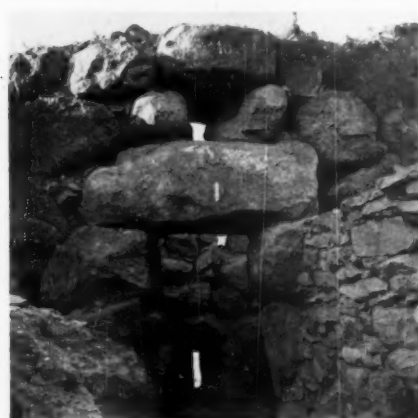


Fig. 30



Fig. 31

Figs. 24-31; The *Nuraghe Su Nuraxi* at Barumini,
courtesy G. Lilliu

Fig. 24. Right foreground, tower of earliest outwork ("seconda fase, nuragico primo inferiore," end 9th-mid 8th cent. B.C.); background, W, S and E towers to left of refaced square bastion ("fase terza, nuragico primo superiore," mid 8th-end 6th cent. B.C.). Fig. 25. Secondary lane separating in S-N direction several blocks of houses of village of fourth phase ("nuragico secondo," 5th-4th cent. B.C.). Fig. 26. Left foreground, NW tower of earliest outwork ("seconda fase, nuragico primo inferiore," end 9th-mid 8th cent. B.C.); to right, rooms of dwellings of "nuragico secondo" village (5th-4th cent. B.C.), inserted in space of outwork above stratum due to collapse of bastions of fortress. Fig. 29. Entrance door of NW tower of earliest outwork ("seconda fase, nuragico primo inferiore," end 9th-mid 8th cent. B.C.). Foreground, lintel of door surmounted by relieving aperture as in Mycenaean architecture; background, loopholes of tower rooms. Fig. 30. Two of the eleven loopholes (lower course) in room of NW tower of earliest outwork ("seconda fase, nuragico primo inferiore," end 9th-mid 8th cent. B.C.). In this tower, bowmen shot kneeling. Fig. 31. Loopholes for crossfire in outer angle between E tower and E entrance gate of late outwork ("terza fase, nuragico primo superiore," mid 8th-end 6th cent. B.C.). Disposition of loopholes protects entrance in outermost line at vulnerable point

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GENERAL MEETING 1958

The sixtieth General Meeting of the Archaeological Institute of America will be held jointly with the Annual Meeting of the American Philological Association at the Netherland Hilton Hotel, Cincinnati, Ohio, on December 28, 29, and 30, 1958. Persons wishing to read papers should submit titles and abstracts (summaries of not more than 200 words, typewritten, double-spaced, ready for publication in *AJA*), not later than October 15, 1958, to the General Secretary for distribution to the Program Committee. Abstracts should specify what projection or other equipment is required. All papers will be limited to 20 minutes, except excavation reports, for which extra time may be allotted if it is specifically requested when the summary is submitted.

COWA SURVEY AND BIBLIOGRAPHY

The Council for Old World Archaeology has begun publication of surveys of current archaeological activities in every region of Europe, Africa, Asia and Oceania, and bibliographies of current publications, selected and annotated for these same twenty-two regions. These surveys will be published biennially, and two are already available at \$1.00 each (subscription \$4.00 a year). For details see *AJA* for April, 1958, page 215, or write COWA, 11 Divinity Avenue, Cambridge 38, Mass.

BACK NUMBERS WANTED

AJA Vol. 60, No. 4 (October 1956) and Vol. 61, No. 1 (January 1957) are out of print and we have many requests for them. If any members have no further use for these numbers and will send them to the General Secretary, 5 Washington Square North, New York 3, it will be greatly appreciated.